

# APPENDIX M

## Forest Service

### Response to Comments

#### INTRODUCTION

A 45-day comment period for the School Fire Salvage Recovery Project Draft Supplemental Environmental Impact Statement (DSEIS) was provided for interested and affected publics, including appropriate local, state, and federal government agencies, and Tribes. The comment period began with a Notice of Availability in the Federal Register on March 9, 2007, and lasted through April 23, 2007. The responsible official will be considering the comments made in the decision-making process.

The Forest Service received 11 responses both electronically and by U.S. mail during the 45-day comment period, and one response was electronically received after the comment period. We responded to all comments received. All correspondence was reviewed and our response to comments is located later in this section. The complete comment period record is kept in the analysis file and is available for review at the Pomeroy Ranger District office in Pomeroy, Washington.

The following table lists the comment letters received.

**Comments Received During the DSEIS 45-Day Comment Period**

<b>Letter Identification Number and Date Received</b>	<b>Author(s)</b>	<b>Organization/ Agency</b>
#1 – 3/8/2007	Barbara Sachau – (Jean Public)	
#2 – 3/12/2007	Ed Pearson	Dodge Logging, Inc.
#3 – 4/12/2007	Doug Heiken	Oregon Wild
#4 – 4/20/2007	Andy Stahl	Forest Service Employees for Environmental Ethics (FSEEE)
#5 – 4/20/2007	Terri Costello	State of Washington – Depart. of Ecology
#6 – 4/23/2007	Preston A. Sleeper	U. S. Department of the Interior
#7 – 4/23/2007	Charles H. Burley	American Forest Resource Council
#8 – 4/23/2007	Mike Petersen Rene Voss Larry McLaud Jeff Juel Gary Macfarlane	The Lands Council The Sierra Club Hells Canyon Preservation Council WildWest Institute Friends of the Clearwater
#9 – 4/23/2007	Ralph Bloemers	The Lands Council Oregon Wild Hells Canyon Preservation Council Sierra Club
#10 – 3/29/2007	Edward L. Johnson	
#11 – 4/23/07	Christine Reichgott, Mgr.	U. S. Environmental Protection Agency – Region 10
#12 – 4/24/07* *received after comment period.	Dan Becker	

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### Response to Comments

Letter #1 – Barbara Sachau (Jean Public)	
<p><b><u>Letter 1 – Comment 1</u></b>  <i>on the first page of your letter you wrote that Umatilla "needs" to log. I don't think it needs to at all. if the salary scale is too high, lay off personnel – but keep the forest. that is what the national taxpayers own and they should be able to have it kept natural.</i></p>	Your comment has been noted.
<p><b><u>Letter 1 – Comment 2</u></b>  <i>i don not think this new definition for "live trees" helps anything. I think the forest service is simply embarked on a campaign to destroy by burning, logging, and toxic chemicalling everything – destroying our world completely.</i></p>	Your comment has been noted.
<p><b><u>Letter 1 – Comment 3</u></b>  <i>I do not think this is an "emergency" at all. it is an alleged "emergency."</i></p>	Your comment has been noted.

Letter #2 – Dodge Logging, Inc. Ed Pearson	
<p><b><u>Letter 2 – Comment 1</u></b>  <i>Dodge Logging Inc., supports the selection of Alternative B – Proposed Action. We support this Alternative exactly as written.</i></p>	Your comment of support has been noted.
<p><b><u>Letter 2 – Comment 2</u></b>  <i>It has been our experience that live trees which have been moderately or severely damaged by fire usually succumb and die within one to two years. It appears to us that the Scott Guidelines currently provide the best scientific way of determining which trees are damaged severely enough that they will die and which are not damaged enough and may survive. The three timber sales were marked under these guidelines , and it appears to us, if anything, the Scott Guidelines are conservative in the number of damaged trees it allows to harvest. We support</i></p>	Your comment of support has been noted.

<i>their continued use in the School Fire Salvage Recovery Project.</i>	
<p><b><u>Letter 2 – Comment 3</u></b></p> <p><i>We, also, whole heartedly support the effort of the Forest Service to salvage log fire damaged timber. This includes not only the dead trees but also trees that are dying and will be dead within a year or two.</i></p>	Your comment of support has been noted.

<b>Letter #3 – Doug Heiken OREGON WILD</b>	
<b>Comment</b>	<b>Our Response</b>
<p><b><u>Letter 3 – Comment 1</u></b></p> <p><i>The Forest Service must re-interpret the LRMP in light of the east side screens.</i></p>	Other than the plan amendment proposed in this FSEIS, no additional need to modify or interpret the LRMP has been identified.
<p><b><u>Letter 3 – Comment 2</u></b></p> <p><i>The entire School Fire Salvage Project, including this amendment, are based on outdated science and flawed understandings of forest ecosystems. Before the School fire, the Forest Service had no specific plans to log these forests, but the fire caused the Forest Service to reorganized its priorities to conduct logging in areas that were previously not priority. The salvage logging proposal is therefore based on the idea that logging dead trees is better than doing the other things the Forest Service had planned to do. In fact, top scientists such as Dr. Jerry Franklin, now say that these large snags removed by salvage logging should be retained and it makes more sense to log live, green forests that are overstocked and arguably “need” to have small trees removed. This proposal to amend the east side screens to allow removal of dying trees takes a bad logging idea and makes it worse.</i></p>	<p>Prior to the School Fire, the Forest Service had completed timber harvest activities on more than 18,000 acres within the School Fire area (table 3-1 in the School Fire FEIS), and plans were being formulated to complete additional timber harvest in the west end of the School Fire area (this was the Lower Tucannon Ecosystem Management Project, and it was being analyzed in an environmental impact statement. (Umatilla National Forest's Schedule of Proposed Actions –2003-2005).</p> <p>A Notice of Intent (NOI) for the Lower Tucannon Project appeared in the Federal Register on 7/9/2003.</p>
<p><b><u>Letter 3 – Comment 3</u></b></p> <p><i>The east side screens were adopted in response to decades of mismanagement that resulted in severely reduced habitat and water quality on National Forests in the interior Columbia Basin.</i></p>	The Eastside Screens were adopted in response to a petition from the Natural Resources Defense

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<i>The screens prohibit the removal of live trees 21” dbh and larger in areas where large trees are under-represented.</i>	<p>Council and a report called the “Eastside Forest Ecosystem Health Assessment,” as described in Appendix C of the School FEIS (page C-1).</p> <p>The proposed action (Alternative B) includes provisions for the retention of live trees <math>\geq</math> 21 inches dbh.</p>
<p><b><u>Letter 3 – Comment 4</u></b></p> <p><i>Traditional salvage logging involved logging almost all of the dead and live trees with the intent to start new stands and manage them as tree farms. This results in the establishment of simplified young stands that may never attain complex old forest characteristics and will require significant future investment in stand management. This is more or less what the Umatilla NF had in mind when it was adopted. This approach was however rejected when the east side screens were adopted. Salvage logging is among the activities that need to change in order to preserve options (as intended by the screens), while new plans are developed for long-term conservation and restoration of the National Forests. The requirement to retain live trees partially modifies the ecologically harmful practice of salvage logging, because it retains more legacy features that add structural complexity to the developing stand and carry valuable ecological features forward from one stand to the next. <b>The Forest Service should not rely on the LRMP for support of its salvage proposal. All resource extraction and economic drivers in the old LRMP (including as salvage logging) must now be re-interpreted in light of the over-riding conservation objectives of the east side screens PACFISH and INFISH.</b></i></p>	<p>Appendix F of the School FEIS presents a regeneration analysis for the School Fire area. It shows that about 2/3 of the fire area might require tree planting, with the remaining 1/3 is expected to regenerate naturally (table F-3, page F-8 in FEIS). For areas that would be planted, a mix of native conifer species would be used, and the species proportions in the mix would vary by ecological site potential as represented by Plant Association Groups (see Chapter 2, table 2-2 in School FEIS). This planting strategy ensures that the resulting stands will develop with a forest composition, structure, and function falling within the historical range of variability for School Fire area biophysical environments.</p> <p>Reinterpreting the LRMP (Forest Plan) in light of the over riding conservation objectives of the eastside screens, PACFISH, and INFISH is outside the scope of this project, and it not necessary to amend the Forest Plan. PACFISH and the Eastside Screens are amendments to the Forest Plan. Salvage activities, as proposed, are consistent with the Forest Plan, as amended, including the Eastside Screens environmental assessment and decision notices dated May 20, 1994 and June 12, 1995.</p>

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Comment	Our Response
	<p>The Forest Service is relying on the purpose and need for action (FEIS, Chapter 1), an analysis of alternatives for accomplishing the purpose and need (FEIS, Chapter 2), and an analysis of environmental consequences associated with implementing the alternatives (FEIS, Chapter 3) for its salvage proposal.</p>
<p><b><u>Letter 3 – Comment 5</u></b>  <i>The court ruled in the <u>Lands Council</u> case that the Forest Service had violated the screens by cutting live trees as part of the School Fire Salvage Project. Now the Forest Service proposes to amend the screens to allow them to remove trees that are live but not expected to live very long.</i></p>	<p>On February 12, 2007 the Court issued an opinion that the Project (School Fire Salvage Recovery Project) was inconsistent with the Forest Plan (Eastside Screens) by inappropriately implementing the "prohibition on logging of any "live tree" <math>\geq</math> 21 inches diameter at breast height that currently exists in the sales areas – i.e., any tree of the requisite size that is not yet dead." The Court went on to conclude that the agency could not harvest "dying" trees because they were not dead. The Court recognized that we could correct this situation by amending the Forest Plan to include a definition of the term "live tree." On February 15, 2007 the Eastern District Court of Washington issued an injunction requiring that "the Forest Service shall not harvest from the three timber sales areas any "live tree" <math>\geq</math> 21 inches diameter at breast height. This includes any tree of requisite size with green needles or that is not yet dead."</p> <p>The proposed action addressed in this Supplemental EIS responds to the court's admonition to amend the Forest Plan by clarifying the agency's definitions of live and dead trees.</p>

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<p><b><u>Letter 3 – Comment 6</u></b>  <i>Part of the flaw in the Forest Service’s thinking is the assumption that the relatively short (approx. 5 year) period between now and when the trees will likely die is not an important timber period in the development of the forest. This is incorrect. The values provided by dying trees during this period are disproportionately important in the overall development of the forest because beneficial soil organisms and new plant growth are in tremendous flux. The dying trees help stem the decline of beneficial soil organisms by feeding photosynthate to the below ground ecosystem at a time when most of the usual food supplies have been killed. The dying trees also help provide beneficial microclimate for the establishment and growth of a diverse new forest. Young plants are highly vulnerable to heat, drought, and cold during the early establishment phase of succession. Shade and cover provided by the dying trees helps moderate these extremes. The dying trees are NOT just waiting to die; they are nursing the next generation of forest at a time when the new forest is most in need of assistance. Furthermore, to the extent the dying trees have green canopy, they are providing a rare and under-represented green tree habitat function in the post-fire environment.</i></p>	<p>Response to this comment was disclosed in Chapter 3 and Appendix F, Appendix K, and Appendix M of the School FEIS. Appendix F discusses the autecological characteristics of 78 native plant species (9 trees, 18 shrubs, 15 grasses and grasslike plants, and 36 forbs) occurring within the School Fire area (table F-9), including a description of their regeneration modes and how they are expected to respond to fire effects. The capability of native tree species to handle post-fire conditions such as frost, drought, snow damage, open (unshaded) sites, and an ash or char seedbed are described in table F-2 of the School FEIS.</p>
<p><b><u>Letter 3 – Comment 7</u></b>  <i>This amendment is contrary to sound ecological forest management and therefore violates the intent of the east side screens (to preserve options and move toward the historic range of variability).</i></p>	<p>Consistency with Eastside Screens was disclosed in Appendix C of the School FEIS. Appendix N of the DSEIS provides the Eastside Screens amendment to the Umatilla National Forest Plan; it clearly shows in a footnote to Screens table 1 (see page N-5) that the historic range of variability portion of the Screens pertains to live trees only, not to snags or other dead trees.</p>
<p><b><u>Letter 3 – Comment 8</u></b>  <i>Removing large dead trees is already imposes a tax on the forest ecosystem. Going further and removing trees that are assumed to be “dying” will cause the further harm to the developing stands:</i></p> <ul style="list-style-type: none"> <li>• <i>By reducing the future recruitment of snags, (large snags are already under-represented so further reducing large snags pushes these stands further away from the historic range of variability).</i></li> <li>• <i>By eliminating refugia for beneficial soil organisms (such as mycorrhizal fungi) that are important for recovery of the new stand,</i></li> <li>• <i>By retarding the recovery of beneficial soil organisms,</i></li> </ul>	<p>Direct, indirect, and cumulative effects, to affected resources were disclosed in Chapter 3 of the School FEIS.</p> <p>As stated in the Draft Supplemental EIS (page 3-3) "effects to resources would be as described for all resources under Alternative B in the School Fire Salvage Recovery Project Final EIS. Timber harvest would still occur in the same areas and</p>

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<ul style="list-style-type: none"> <li>• <i>By reducing shade that helps buffer the microclimate that the new seedlings must contend with,</i></li> <li>• <i>By further simplification of the structural complexity of the stands</i></li> </ul> <p><i>The SDEIS effects analysis fails to address these highly relevant issues.</i></p>	<p>along the same roads as originally described in the School Fire Salvage Recovery Project Final EIS. Logging systems would remain the same and no new trees would be designated for harvest. The size and location of Riparian Habitat Conservation Areas would remain the same as would the measures to protect those areas. Seasonal restrictions on operations to minimize effects on big game winter range, soils, and snowmobile uses would remain the same. Therefore, as a result of this amendment, there would be no changes on the ground, or to environmental effects beyond those already described in School Fire Salvage Recovery Project Final EIS."</p>
<p><b><u>Letter 3 – Comment 9</u></b></p> <p><i>Even assuming the Forest Service makes correct determinations that these trees will die within a few years, the forests ecosystem is much better off with the dying trees retained because dying trees provide several important ecological values, including mycorrhizal refugia, future recruitment of snag habitat and soil nutrients, shade that helps moderate weather extremes, needle fall that provides nutrients and soil protection, fine canopy fuels held high in the air and generally unavailable for combustion, and the water filled tree bole provides hydrological and fire benefits. The Supplemental DEIS indicates that there are approximately 5 mmbf of such “dying” trees in the School Fire Salvage Project that the proposed amendment would remove. That’s the equivalent of 1,000 log truck loads of mostly large trees that would provide all these wonderful ecological values if retained and provide none of these values if removed.</i></p>	<p>See response to Comment 8 above.</p> <p>In addition, Appendix K of the School FEIS discussed several reports dealing with the ecological values of dead trees, including the Beschta reports, the American Lands Alliance report, the ICBEMP scientific assessment report, the Lindenmayer salvage harvest article, and the Society for Conservation Biology scientific panel report (among others).</p>
<p><b><u>Letter 3 – Comment 10</u></b></p> <p><i>This amendment will reduce recruitment of large snags and therefore violates the intent of the east side screens (to restore habitat features associated with old forests).</i></p> <p><i>This amendment is contrary to the intent of the east side screens. The main point of the east side screens is to protect large trees and ensure that management moves stands toward rather than away from the historic range of variability. Salvage logging is a loophole in this requirement and the Forest Service is trying to expand that loophole to allow logging not only</i></p>	<p>Direct, indirect, and cumulative effects to snags were disclosed in the Dead Wood Habitat section of Chapter 3 of the School FEIS. In this section we recognize that the use of DecAID reflects the best available science and is a collection of recent scientific and data gathering concerning dead wood habitat (FEIS, Chapter 3, p. 3-197).</p>

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<p><i>of large dead trees but also large dying trees (and some large live trees that they accidentally misidentified as dying). Expanding this loophole undermines one of the core purposes of the east side screens.</i></p> <p><i>On June 11, 2003 the Regional Forester issued Guidance for Implementing Eastside Screens to Forest Supervisors highlight new information about the large size of snags needed by certain wildlife and saying, "These findings reinforce the importance of retaining and recruiting large, old trees in the eastside landscape, particularly (but not only) in Forests historically dominated by single-story LOS. It is critical that silvicultural prescriptions provide for large snags in adequate numbers (as indicated by DecAID and other tools) <u>through time</u> to provide habitat for these species." This amendment will exacerbate the expected future deficit of large snags, know as the "snag gap." This will push the forest ecosystem further from the historic range of variability in violation of the intent of the east side screens.</i></p>	<p>A finding of consistency with the Forest Plan was also disclosed Chapter 3 of the FEIS, it reads as follows: Dead wood levels would be retained in excess of snag and down wood levels identified in the Forest Plan, as amended with the Interim Wildlife Standard (Eastside Screens). The best available science was used to determine effects to snag and down wood dependent species (Mellen 2006). All alternatives would provide adequate habitat for cavity excavators expected to occur in the area. A low level of assurance that habitat would be available for black-backed woodpeckers indicates that the population would be maintained at the current level. Deadwood retention levels are consistent with the desired condition in the Land and Resource Management Plan for the Umatilla National Forest (Forest Plan, page 4-7, 1990) because habitat for species using dead (snags) and down trees would be provided throughout the project area. Live trees would be retained for replacement snags, wherever they occur. Dead down logs and slash would be left on the ground when they occur for species utilizing such habitat (School FEIS, Chapter 3, p. 3-221).</p> <p>Also see response to Comment 8.</p>
<p><b><u>Letter 3 – Comment 11</u></b></p> <ol style="list-style-type: none"> <li><i>The agency must recognize the asymmetric nature of snag dynamics after fires. High rates of snag fall would be expected in the decades following fire, while low rates of snag recruitment would be expected in the decades following a fire. This unavoidably results in a serious deficit of snags at some point in the future.</i></li> <li><i>In order for the NEPA analysis to fully address the snag habitat issue it must look carefully</i></li> </ol>	<p>Responses to this comment were disclosed in the School FEIS, Chapter 3, Dead Wood Habitat section, Appendix B, and Appendix M, pages M-63 to M-89.</p>



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<p><i>at the snag gap from both ends.</i></p> <ul style="list-style-type: none"> <li><i>a. The snag gap begins when too many of the current snags are gone. So the snag gap is exacerbated on the front end by salvage logging which removes too many large snags.</i></li> <li><i>b. The snag gaps ends when the next stand grows to the point that it contains large trees and some of them die, so the snag gap is exacerbated on the back end if there is a significant delay in tree regeneration.</i></li> </ul> <p>3. <i>The agency has a tendency to focus on the back end of the snag gap which is more speculative and ignore the effect of salvage logging on the front end of the snag gap (which is concrete and unavoidable).</i></p> <p>4. <i>Salvage logging which retains only enough snags to meet snag requirements after harvest will not meet snag requirements in a few years after those few retained snags fall.</i></p> <p>5. <i>Both the RMP and the Northwest Forest Plan (p C-13) require that snags be maintained through time, so our goal must be to manage snags to minimize the time period that there is a deficit of snags.</i></p> <p>6. <i>The NEPA analysis must account for snag fall rates and figure out how to minimize the snag gap. Every day that the “snag gap” is lengthened by salvage logging is a violation of the RMP. Models that may be used to analyze snag dynamics can be found here: <a href="http://www.for.gov.bc.ca/hre/deadwood/DTmod.htm">http://www.for.gov.bc.ca/hre/deadwood/DTmod.htm</a></i></p> <p>7. <i>There is a strong correlation between the size of the snag and the length of time it is likely to remain standing, so salvage must be designed to retain all the large snag and only remove trees from smaller size classes.</i></p> <p>8. <i>Consider this example: Assume that the stands currently have 30 large trees/acre and 24 of those will be removed via salvage logging while 6 trees/acre will be retained for snag habitat. Further assume that in 50 years 2 percent of the large snags will remain standing as snag habitat. Two percent of 6 trees/acre is FAR LESS than 2 percent of 30 trees/acre, so there is a virtual statistical certainty that salvage logging will exacerbate the snag gap</i></p> <p><i>The agency often compares their proposed snag retention levels to the average number of snags across the landscape, without recognizing that after a significant disturbance such as fire “the rate of input [of snags] to the CWD pool is 100-1000x the rate expected for an unburned</i></p>	

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<p><i>steady-state forest (Harmon et al 1986). Even afterwards, in the next 5 or 6 years, the rate of input is still 5 or 10 or even 100 times that steady-state rate.”</i></p> <p><a href="http://www.brownandbrown.tv/warner-presentation-2002-05-14b.pdf">http://www.brownandbrown.tv/warner-presentation-2002-05-14b.pdf</a></p> <p><i>The agency cannot take a hard look at the issues of snag habitat and complex young forests without considering the dynamics of snags and dead wood.</i></p>	
<p><b><u>Letter 3 – Comment 12</u></b></p> <p><b><i>The amendment ignores the importance of beneficial soil organisms after fire.</i></b></p> <p><i>Rapid mycorrhiza formation is important to establishment and survival of vegetation after a fire. The quantity, quality and rate of revegetation is in turn important for many hydrologic, soil, and habitat qualities. See Amaranthus, M. P. and D. A. Perry. 1994. The functioning of ectomycorrhizal fungi in the field: linkages in space and time. Plant and Soil 159: 133-140. (“The authors review the importance of ectomycorrhizal fungi (ECM) to the growth and survival of trees - they take up nutrients and water, extend feeder root longevity, protect against pathogens, maintain soil structure, and can protect plants from toxic heavy metals. Furthermore, studies document that roots of different plants can be linked by commonly shared ECM fungi. Mycorrhizal hyphae supported by one plant can aid in the establishment of another plant. As a result, young seedlings can form mycorrhizae and obtain energy from an already established host tree. Extending mycelium may also help speed up regeneration in adjacent small forest openings. The authors note that ECM fungi may play a critical role during disturbance when the above-ground community dramatically changes. The existing fungi form a link between the old and new stands by aiding in the establishment of new host trees. Studies showed that tree seedling establishment was much less successful in sites without the appropriate mycorrhizae, such as on sites invaded by non-native plants, which are usually non-mycorrhizal or are associated with different mycorrhizal species.”)</i></p> <p><i>The NEPA analysis must consider research suggesting that the rapidity of mycorrhizae formation in young plants following disturbance may be critical. Borchers and Perry, “Effects of Prescribed Fire on Soil Organisms, Chapter 13 in Natural and Prescribed Fire in Pacific Northwest Forests, Walstad, Radosevich, and Sandberg, editors, OSU Press. This means that any tendency of salvage logging to delay vegetation recovery or disturb or remove mycorrhizae refugia could have consequences that last longer than suggested by the mere delay. The period of natural recovery of vegetation shortly after fire may be critical. Activities that kill or damage new or residual vegetation (like salvage logging, activity fuel treatment, site prep, planting,</i></p>	<p>Direct, indirect and cumulative effects to soil were disclosed in School FEIS, Chapter 3, and in Appendix M, pp. M-40 and M-80.</p>

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<p><i>etc.) may have serious adverse consequences for the growth and survival of the new stand.</i></p>	
<p><b><u>Letter 3 – Comment 13</u></b>  <b><i>In supplementing a NEPA analysis the Forest Service must consider and evaluate a true no action alternative.</i></b></p> <p><i>The Forest Service must reconsider the no action alternative of the original School Fire FEIS, i.e. the no salvage logging alternative, because (A) the overall effect of salvage logging is overwhelmingly adverse to ecological values as described above and therefore contrary to the intent of the east side screens (it limits rather than preserves options, and moves ecosystems away from rather than toward the historic range of variability). And (B) there is significant new scientific information about salvage logging that has arisen since the ROD was approved.</i></p> <p><i>Collectively this new information (and the discussion buried in revised Appendix K) should cause the Forest Service to completely re-evaluate the no action alternative which now looks more attractive relative to all the adverse impacts of salvage logging.</i></p>	<p>Direct, indirect and cumulative effects were disclosed for the no action alternative (Alternative A) in School FEIS, Chapter 3, and additional information was disclosed in Appendix K.</p> <p>In School FEIS the No-Action alternative was described to mean that all activities identified in the proposed action would not be approved or occur in the School Fire Salvage Recovery Project area. Salvage harvest of fire-killed and damaged trees and tree planting in harvested units would not be authorized. There would be no construction of temporary roads or use of previously closed, decommissioned, and unauthorized roads in support of salvage harvest (FEIS, Chapter 2, page 2-9).</p> <p>All published scientific literature that was relevant and known to the Forest Service was considered in the FEIS. Chapter 3 of the FSEIS discloses our review of conflicting scientific viewpoints.</p>
<p><b><u>Letter 3 – Comment 14</u></b>  <b><i>This is a significant plan amendment.</i></b></p> <p><i>This amendments to the east side screens is not an insignificant amendment but rather a significant amendment because it is not consistent with the intent of the east side screens which is to preserve options for future management. The purpose and need for this project, to “maximize the economic benefits,” is contrary to the east side screens and the multiple-use mandate of the Forest Service. As recognized by the court, the Forest Service must follow the law and the forest plan, not just the economic parts of the plan. By letting economic trump ecology, the Forest Service is significantly altering the underlying balance between competing uses of the Umatilla NF. This requires the FS to follow the full NFMA procedures for a</i></p>	<p>This plan amendment is being proposed under the National Forest Management Act (NFMA) implementing regulations in effect prior to November 9, 2000. The 2000 NFMA implementing regulations (36 CFR 219.14 (d) (2)) as amended by the September 29, 2004 Interpretative Rule (Federal Register Vol. 69, No. 188) allow use of these procedures. Specific procedures for amending plans under the</p>

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<p><i>significant plan amendment.</i></p> <p><i>A significant amendment of the forest plan will require further compliance with NEPA and NFMA and much better public notice and comment. This Supplemental EIS was only sent to a small group of people but a significant forest plan amendment must involve the broader public.</i></p> <p><i>Other reasons that these amendments are significant is that they are precedent setting. If this amendment is allowed the Umatilla and other National Forest will certainly do it after other fires when they want to remove large dying trees.</i></p> <p><i>This is a significant amendment because this amendment is based on <u>economic</u> recovery objectives and is not ecologically based. The Forest Service itself says it is adopting this amendment to conform the definition of live trees to “reflect Forest Service silvicultural practice.” This is not an ecological justification. Just because the Forest Service has included dying trees in salvage sales in the past and wants to continue doing so does not make it ecologically appropriate.</i></p>	<p>regulations in effect prior to November 9, 2000 are found in Forest Service Manual (FSM) 1926.5. Non-significant plan amendments may be made as a part of a project proposal, as is the case here. A plan amendment can be found to be non-significant if the amendment involves:</p> <ol style="list-style-type: none"> <li>1. Actions that do not significantly alter the multiple-use goals and objectives for long-term land and resource management.</li> <li>2. Adjustments of management area boundaries or management prescriptions resulting from further on-site analysis when the adjustments do not cause significant changes in the multiple-use goals and objectives for long-term land and resource management.</li> <li>3. Minor changes in standards and guidelines (School DSEIS, page 1-2).</li> </ol> <p>A finding of significance under 36 CFR 219 will accompany the record of decision for the FSEIS.</p> <p>The amendment proposed in this FSEIS is short-term (the life of this project) and of limited scope (28,000 acres of the 1.5 million acre Umatilla National Forest) and it amends the Forest Plan in a way that contributes to achieving plan goals. The proposed action includes modification of one Forest Plan standard, limited to the duration and geographic scope of the Project. The amendment would not change management intent of the Eastside Screens wildlife standard nor would there be changes in how the standard would be applied to the Project compared to the effects disclosed in the July 2006 Project FEIS. Appendix B,</p>

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	Implementation and Marking Guides, of the Project FEIS would not change. This amendment clarifies the definitions of live and dead trees to be consistent with normal agency practice and current science. This amendment would not preclude or require other amendments specific to this wildlife standard nor would this amendment preclude or require other actions across the forest (FSEIS, Chapter 3, p. 3-3).
<p><b><u>Letter 3 – Comment 15</u></b></p> <p><i>The Forest Service must protect all large live trees.</i></p> <p><i>A review of past fires indicates that large pine trees are surviving after fire better than expected. The latest scientific information indicates that large pines with any green needles at all should be retained because they may survive.</i></p> <p><i>Surviving green trees are rare and valuable after a fire especially for:</i></p> <ul style="list-style-type: none"> <li>• <i>recovery of soil biota,</i></li> <li>• <i>proving current live tree habitat such as cover</i></li> <li>• <i>producing seeds for natural reforestation and for animal foraging, and</i></li> <li>• <i>provide critically important future snag and down wood recruitment.</i></li> </ul> <p><i>The agency's NEPA analysis must address all of these issues by explaining the extent to which surviving trees and their specific functions and values will be lost due to safety, operational constraints, and yarding corridors, road rights-of-way, etc.</i></p> <p><i>While it is true that some trees injured by fire will soon die, the agency fails to acknowledge or disclose the degree of confidence in their estimates (i.e. how many false positive predictions of imminent death will the agency make) and fails to recognize the huge importance of remaining live trees as current habitat (cover, shade, microclimate, nest/roost/foraging structures, etc.), as seed sources for natural recovery of locally adapted vegetation, as refugia for beneficial soil organisms including symbiotic fungi, as generators of fine root biomass, and as future sources of snags to fill the temporal gap between the batch of snags created by this fire and those to be produced in the distant future by the next stand of trees.</i></p>	<p>Direct, indirect, and cumulative effects for affected resources were disclosed in the School FEIS, Chapter 3, and additional information was disclosed in Appendix E, Appendix F, Appendix K, and Appendix M.</p> <p>We believe the FEIS fully discloses and discusses the controversy regarding prediction of which fire-injured trees might die from their injuries in the near future (see particularly Appendix K and Appendix M). Also, the Forest Service recently reviewed post-fire survival of large ponderosa pines for two other fire areas in the Blue Mountains and, in response to this validation review, has modified the Scott Guidelines by producing Amendment 2. Amendment 2 makes several significant changes in the evaluation of survival potential for these large-diameter ponderosa pine trees, with the result that fewer of them will be marked for post-fire removal in the future. The Scott Guidelines are based on peer-reviewed science, and as with any scientific process, the results should not be viewed as a final answer for time immemorial. As new and more</p>

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<p><i>The NEPA analysis failed to adequately disclose and analyze this and an EIS is necessary to consider the effects of harvesting numerous trees that may survive.</i></p> <p><i>The agency must recognize the large trees are more likely to survive fire and retain large trees with any signs of life. Large are more likely to survive due to two factors: (1) they are tall so more of their canopy is above the scorch height, and (2) their bark is thicker and better protects their cambium.</i></p>	<p>complete information comes to light, the results are refined, and this revision process is considered a normal part of accepted scientific procedures. The Scott Guidelines are viewed as an adaptive management procedure. As new and better information becomes available, appropriate changes are made to improve the accuracy of the rating procedure. Validation of the Scott Guidelines will continue to play a key role in helping to identify future changes and improvements that will improve the rating procedure. A large, broad-scale calibration of the Scott Guidelines is currently underway, and when completed it will probably result in additional revisions of the Scott Guidelines (See Appendix M of the School FEIS, Letter #7, Comment 6; page M-14).</p> <p>Note that bark thickness and other survival factors are described in table E-1 of the School FEIS, but that they need to be in a contemporary context. When pre-settlement or historical fires occurred with greater frequency than they do now, and with low intensity, larger ponderosa pines were well adapted to survive these light surface fires. With implementation of fire exclusion policies about a hundred years ago came suppression of natural fire-return intervals. Under the natural fire regime, litter and duff depths may not have exceeded much more than ½ inch (Arno 2000). Arno (2000) observes that in many stands that have missed multiple fire-return cycles, the deep accumulations of duff around the base of large ponderosa pines can range from 6-24 inches. When these mounds of duff are consumed by smoldering combustion following light surface fires, high temperatures are produced</p>

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	and sustained for a long duration over the fine-root systems and against the root crown, eventually girdling and killing the tree. If not killed outright, these trees often succumb to second-order fire effects (insects, drought, and disease) several years later.
<p><b><u>Letter 3 – Comment 16</u></b></p> <p><i>The agency’s use of the Scott Mortality criteria to determine “dying” trees will lead to violations of the eastside screens 21 inch diameter limit. While it’s true that salvage is exempt from the ESS diameter limit. Cutting live trees is not exempt. Since the Scott criteria are probabilistic (i.e. there is a greater than 0% risk of false positive findings that trees are “dying”) so some large live trees will by definition be killed in violation of the screens. The Forest Service must err on the side of protecting large trees that might survive (and any large trees that are green now and later die actually help achieve the overall objectives of the screens).</i></p>	<p>Appendix C, Appendix K, and Appendix M of the School FEIS disclosed our compliance with the Eastside Screens and our rationale for using Scott Guidelines.</p> <p>Also see response to Comment 15 above.</p>
<p><b><u>Letter 3 – Comment 17</u></b></p> <p><b><i>The Forest Service needs to develop new snag habitat standards that account for new information and increase the retention of snags.</i></b></p> <p><i>This amendment takes the snags retention standards in the opposite direction from the need indicated by the best available science. This amendment ostensibly involves amending standards to allow more logging of snag habitat, but the Forest Service’s existing snag habitat standards are based on the potential population method and are scientifically discredited. Evidence indicates that the potential population method provides too few large snags and the Forest Service needs to amend its standards to protect more snags, not fewer as this amendment would do.</i></p> <p><i>The Forest Service needs to prepare a EIS to consider a replacement methodology for maintaining species and other values associated with dead wood. This is especially critical because adequate dead wood is recognized as an essential feature of healthy forests and the Forest Service has identified lots of “management indicator species” associated with dead wood habitat.</i></p> <p><i>The bottom line is that current management at both the plan and project level does not reflect</i></p>	<p>Direct, indirect, and cumulative effects and findings of consistency were disclosed in School FEIS, Chapter 3, Wildlife and Dead Wood Habitat sections. Information on snags and down wood is also disclosed in the FEIS, Chapter 2, Table 2-3 Design Features and Management Requirements, Appendix B, and Appendix M.</p> <p>Also see response to Comment 8.</p>

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<p><i>all this new information about the value of abundant snags and down wood. The agency must avoid any reduction of existing or future large snags and logs (including as part of this project) until the applicable management plans are rewritten to update the snag retention standards.</i></p> <p><i>The Forest Service should stop harming dead wood habitat until they have a legal plan to conserve associated species over the long-term</i></p>	
<p><b><u>Letter 3 – Comment 18</u></b>  <i>Consider the following before relying on DecAID</i></p> <p><i>The agency often tries to use DecAID as a substitute for the outmoded potential population methodology. DecAID, the Decayed Wood Advisor for Managing Snags, Partially Dead Trees, and Down Wood for Biodiversity in Forests of Washington and Oregon, <a href="http://www.notes.fs.fed.us:81/pnw/DecAID/DecAID.nsf">http://www.notes.fs.fed.us:81/pnw/DecAID/DecAID.nsf</a> Although DecAID helps bring together lots of useful information about snag associated species, the agency must recognize and account for the short-comings of DecAID and cannot rely on DecAID to provide the project-level snag standards because: DecAID is a tool designed for plan level evaluations, because DecAID itself has not been subjected to NEPA analysis and comparison to alternatives, and because DecAID is an inadequate tool for the purpose.</i></p> <ol style="list-style-type: none"> <li><i>1. Before relying on DecAID, the agency must prepare a comprehensive NEPA analysis to consider alternative ways of ensuring viability of all species dependent upon snags and dead wood. While it is true that the “potential population” or “habitat capability” method is no longer considered scientifically valid, the agency has not yet considered a full range of alternative methods to replace the habitat capability method mandated in the forest plans.</i></li> <li><i>2. Before using DecAID, the agency must establish a rational link between the tolerance levels in DecAID and the relevant management requirements in the applicable resource management plan. For instance, since the Northwest Forest Plan and the Eastside Screens require maintenance of 100% potential population of at least some cavity-dependent species, the agency must explain why that does not translate into maintaining 100% of the potential tolerance level. If the site is capable of supporting 80% tolerance levels, the agency should not be able to manage for 30-50% tolerance levels and still meet the 100% potential population requirement.</i></li> <li><i>3. DecAID does not replace the discredited forest plan standards because DecAID is informational only. DecAID does not specify management objectives. The agency must</i></li> </ol>	<p>Our response to this comment in its entirety was disclosed in Appendix M of the School FEIS on pages M-68 to M-71.</p>



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<p><i>specify the management objective based on RMP objectives for the land allocation or based on natural “range of variation.” Since large snags are outside the natural range of variability across the landscape, the agency must retain all large snags to start moving the landscape toward the natural range of variability, or the agency must carefully justify in the NEPA analysis every large snag it proposes to remove. See Jerome J. Korol, Miles A. Hemstrom, Wendel J. Hann, and Rebecca A. Gravenmier. 2002. Snags and Down Wood in the Interior Columbia Basin Ecosystem Management Project. PNW-GTR-181. <a href="http://www.fs.fed.us/psw/publications/documents/gtr-181/049_Korol.pdf">http://www.fs.fed.us/psw/publications/documents/gtr-181/049_Korol.pdf</a></i></p> <p><i>This paper estimates that even if we apply enlightened forest management on federal lands for the next 100 years, we will still reach only 75% of the historic large snag abundance measured across the interior Columbia Basin, and most of the increase in large snags will occur in roadless and wilderness areas.</i></p> <p>4. <i>The agency cannot use “average” snag levels (e.g. 50% tolerance level) as a management objective within treatment areas, because treatments are essentially displacing natural disturbance events which would normally create and retain large numbers of snags, so disturbance areas should have abundant snags, not average levels of snags. It would be inconsistent with current science and current management direction to manage only for the mid-points and low points. The agency should manage for the full natural range dead wood levels, including the peaks of snag abundance that follow disturbance.</i></p> <p>5. <i>Be sure to use the DecAID tool appropriately. The agency must address the dynamics of snag habitat over time, by ensuring that recommended snag levels are maintained over time given typically high rates of snag fall and low rates of snag recruitment following fire. These dynamics are not accounted for in the DecAID advisor. The agency often misuses the DecAID decision support tool by looking at only a snap-shot in time. The agency relies on DecAID to analyze impacts on snag dependent species, but the agency fails to recognize that</i></p> <p><i>“DecAID is NOT: ... a snag and down wood decay simulator or recruitment model [or] a wildlife population simulator or analysis of wildlife population viability. ... Because DecAID is not a time-dynamic simulator ... it does not account for potential temporal changes in vegetation and other environmental conditions, ... DecAID could be consulted to review potential conditions <u>at specific time intervals</u> and for a specific set of conditions, but <u>dynamic changes in forest and landscape conditions would have to be modeled or evaluated</u></i></p>	

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<p><i>outside the confines of the DecAID Advisor.”</i></p> <p><i>Marcot, B. G., K. Mellen, J. L. Ohmann, K. L. Waddell, E. A. Willhite, B. B. Hostetler, S. A. Livingston, C. Ogden, and T. Dreisbach. In prep. “DecAID -- work in progress on a decayed wood advisor for Washington and Oregon forests.” Research Note PNW-RN-XXX. USDA Forest Service, Pacific Northwest Region, Portland OR. (pre-print)</i></p> <p><i><a href="http://www.notes.fs.fed.us:81/pnw/DecAID/DecAID.nsf/HomePageLinks/44C813BC574BDFCC88256B3E006C63DF">http://www.notes.fs.fed.us:81/pnw/DecAID/DecAID.nsf/HomePageLinks/44C813BC574BDFCC88256B3E006C63DF</a></i></p> <p><i>To clearly and explicitly address the issue of “snag dynamics” the can start by reading and responding to the snag dynamics white paper on the DecAID website which says “To achieve desired amounts and characteristics of snags and down wood, managers require analytical tools for projecting changes in dead wood over time, and for comparing those changes to management objectives such as providing dead wood for wildlife and ecosystem processes” and includes “key findings” and “management implications” including “The high fall rate (almost half) of recent mortality trees needs to be considered when planning for future recruitment of snags and down wood. Trees that fall soon after death provide snag habitat only for very short periods of time or not at all, but do contribute down wood habitat. In fact, these trees are a desirable source of down wood as they will often begin as mostly undecayed wood and, if left on the forest floor, will proceed through the entire wood decay cycle with its associated ecological organisms and processes that are beneficial to soil conditions and site productivity.”</i></p> <p><i><a href="http://www.notes.fs.fed.us:81/pnw/DecAID/DecAID.nsf/HomePageLinks/863EEA66F39752C088256C02007DF2C0?OpenDocument">http://www.notes.fs.fed.us:81/pnw/DecAID/DecAID.nsf/HomePageLinks/863EEA66F39752C088256C02007DF2C0?OpenDocument</a></i></p> <p>6. <i>The tolerance levels from DecAID may be too low to support viable populations of wildlife associated with dead wood, because anthropogenic factors that tend to reduce snags (e.g., firewood cutting, hazard tree felling, fire suppression, and salvage logging) may have biased the baseline data that DecAID relies upon to describe “natural” conditions. See Kim Mellen, Bruce G. Marcot, Janet L. Ohmann, Karen L. Waddell, Elizabeth A. Willhite, Bruce B. Hostetler, Susan A. Livingston, and Cay Ogden. DecAID: A Decaying Wood Advisory Model for Oregon and Washington in PNW-GTR-181, citing Harrod, Richy J.; Gaines, William L.; Hartl, William E.; Camp, Ann. 1998. Estimating historical snag density in dry forests east of the Cascade Range. PNW-GTR-428. <a href="http://www.fs.fed.us/pnw/pubs/gtr_428.pdf">http://www.fs.fed.us/pnw/pubs/gtr_428.pdf</a></i></p> <p>7. <i>DecAID is still an untested new tool. The agencies must conduct effectiveness monitoring to determine whether the snag and down wood retention recommendations</i></p>	

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<p><i>in the DecAID advisor will meet management objectives for wildlife and other resource values.</i></p> <p>8. <i>The “unharvested” inventory data used in DecAID may represent but a snapshot in time, and fail to capture the variability of dead wood over time, including the pulses of abundant dead wood that follow disturbances and may prove essential for many wildlife species.</i></p> <p>9. <i>DecAID must be used with extreme caution in post-fire landscapes because the data supporting DecAID does not include natural post-fire landscapes. (“The inventory data likely do not represent recent post-fire conditions very well ... young stands originating after recent wildfire are not well represented because they are an extremely small proportion of the current landscape ... The dead wood summaries cannot be assumed to apply to areas that are not represented in the inventory data.” “DecAID caveats” <a href="http://www.notes.fs.fed.us:81/pnw/DecAID/DecAID.nsf">http://www.notes.fs.fed.us:81/pnw/DecAID/DecAID.nsf</a>).</i></p> <p>10. <i>DecAID relies on a wide range of sources in the literature, some of which recommend much higher levels of snag retention than reflected in the advisor. The agency NEPA analysis should disclose the published literature with higher levels of snag and wood retention and discuss their potential relevance for the project. (“the agency must disclose responsible opposing scientific opinion and indicate its response in the text of the final statement itself. 40 C.F.R. § 1502.9(b).” <u>Center for Biological Diversity v. United States Forest Service</u>, No. 02-16481 (9<sup>th</sup> Cir., Nov. 18, 2003).)</i></p> <p>11. <i>DecAID tolerance levels need careful explanation. These tolerance levels are very difficult to put in terms that are understandable by the general public, but if the Forest Service is going to use this tool they must make it understandable. The NEPA analysis should provide cumulative species curves for each habitat type and each forest structural stage and should explain the studies and publications that support the data points on the curves. What kind of habitat were the studies located in? What was the management history of the site? Was the study investigated nesting/denning, or roosting and foraging too?</i></p> <p>12. <i>DecAID does not account for the unique habitat features associated with some types of snags. DecAID primarily just counts snags and assumes that all snags of approximately the same size have equal habitat value, but this fails to account for the fact that certain types of snags and dead wood features are unique, such as: hardwood snags, hollow trees and logs, different decay classes, etc. The NEPA analysis must account for these features and the agency should disproportionately retain dead wood likely to serve these unique habitat functions.</i></p>	

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<p>13. <i>DecaID</i> authors caution that “it is imperative, however, to not average snag and down wood densities and sizes across too broad an area, such as across entire watersheds, leaving large areas within watersheds with snags or down wood elements that are too scarce or too small” Kim Mellen, Bruce G. Marcot, Janet L. Ohmann, Karen L. Waddell, Elizabeth A. Willhite, Bruce B. Hostetler, Susan A. Livingston, and Cay Ogden. <i>DecaID: A Decaying Wood Advisory Model for Oregon and Washington in PNW-GTR-181</i>. <a href="http://www.fs.fed.us/psw/publications/documents/gtr-181/042_MellenDec.pdf">http://www.fs.fed.us/psw/publications/documents/gtr-181/042_MellenDec.pdf</a> While we agree that snags and down wood must not be averaged over wide areas, we also must emphasize that snags and down wood are far below historic levels on non-federal lands, so in order to ensure viable populations of wildlife and avoid trends toward ESA listing, federal lands must be managed to compensate for the lack of down wood on non-federal lands.</p> <p>14. <i>DecaID</i> appears to be based on the idea that the habitat needs of certain key wildlife species represent the best determinant of how much dead wood to retain, and this may in fact be true, but <i>DecaID</i> should also include cumulative curves for other ecological functions provided by dead wood, including: site productivity, nutrient storage and release, erosion control, sediment storage, water storage, water infiltration and percolation, post-fire micro-site maintenance, biological substrate, thermal mass, etc. How much dead wood is needed for these functions?</p> <p>15. <i>DecaID</i> may be best used for program level planning rather than project level planning. See Dallas Emch and Gary Larson, 2006. Review &amp; Analysis of Remainder of Comments on EA Supplements for Multiple Timber Sales on Mt. Hood &amp; Willamette National Forests on Remand in <i>ONRCA v. Forest Service</i> CV-03-613-KI (D.Or.). 4-10-06.</p> <p>16. Any activity that degrades snag habitat is arbitrary and capricious until the agency develops new procedures in compliance with NEPA and NFMA or LFPMA. Compliance with old standards is meaningless, and in the absence of new standards, the agency cannot draw any credible conclusions about impacts to snag associated species. There is no way to use <i>DecaID</i> to comply with the east side screens’ requirement to maintain 100% potential populations of cavity species (until the Forest Service develops some credible way to translate <i>DecaID</i> tolerance levels in to potential population levels).</p>	
<p><b>Letter 3 – Comment 19</b> Snag retention standards overestimate habitat capability</p>	Direct, indirect, and cumulative effects regarding

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<p><i>The traditional snag habitat model used by the agency is based on outdated science which vastly overestimates habitat capability for snag-dependent species because it fails to consider important factors such as:</i></p> <ul style="list-style-type: none"> <li><i>the model does not explicitly consider snag height so some snags may be too short for some species;</i></li> <li><i>rates of snag fall rates over time;</i></li> <li><i>snag recruitment rates over time;</i></li> <li><i>use of space by each species;</i></li> <li><i>the need for roosting structures [and foraging trees, and escape cavities] as well as nesting structures;</i></li> <li><i>recent data on species needs from the Cascades and Blue Mountains has not been incorporated into the model</i></li> </ul> <p><i>Numbers and sizes (dbh) of snags used and selected by secondary cavity-nesters often exceed those of primary cavity excavators.</i></p> <p><i>the fact that snags should be retained in clumps AND dispersed to meet various species needs and ecological functions.</i></p> <p><i>federal managers attempting to maintain viable populations of native cavity-dwellers need to consider generally degraded snag habitat conditions on adjacent and nearby non-federal lands.</i></p> <p><i>The agency's analysis of snag retention and habitat for cavity dependent species is faulty at both a programmatic level and at a project level. The agency must defer any decision on this project until it reviews all the available new information and amends its management plan standards to provide adequate snags for wildlife and all other ecosystem functions.</i></p>	<p>snag retention were disclosed in the School FEIS, Chapter 3, Wildlife and Dead Wood Habitat sections, Appendix B, and Appendix M.</p>
<p><b>Letter 3 – Comment 20</b></p> <p><i>New information on Pileated Woodpeckers indicates Standards &amp; Guidelines are Inadequate.</i></p> <p><i>Pileated woodpeckers play a unique role in the forest ecosystem</i></p> <p><i>They excavate cavities in trees that are later used by numerous other species not just for nesting, but also for roosting and foraging. Benefited species include spotted owls and their prey.</i></p> <p><i>Their excavations accelerate wood decomposition, nutrient cycling, and fungi</i></p>	<p>Direct, indirect, and cumulative effects were disclosed in Chapter 3, Wildlife and Dead Wood sections of the School FEIS. Additional information was also disclosed in Appendix M, pages M-66 to M-67.</p>

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<p><i>dispersal. Kerry L. Farris, Martin J. Huss And Steve Zack. The Role Of Foraging Woodpeckers In The Decomposition Of Ponderosa Pine Snags. The Condor 106:50–59. The Cooper Ornithological Society 2004. <a href="http://www.sabp.net/woodpeckers&amp;spores.pdf">http://www.sabp.net/woodpeckers&amp;spores.pdf</a></i></p> <p><i>The pileated woodpecker’s ability to excavate large cavities in relatively sound trees that are in the early stages of heart wood decay, means that the resulting cavity trees may provide uniquely long-lasting habitat.</i></p> <p><i>The combined foraging activities of pileated woodpeckers and all the species they assist tend to mediate insect outbreaks.</i></p> <p><i>The NEPA analysis failed to consider significant new information on pileated woodpeckers including: Pileated woodpeckers need more and larger roosting trees than nesting trees. They may use only one nesting tree in a year, they may use 7 ore more roosting trees. Determining pileated woodpeckers population potential based on nesting sites alone will not provide adequate habitat for viable populations of this species. This new information is not recognized in current management requirements at the plan or project level. The EIS must address this new scientific information. See Science Findings Issue 57 (October 2003) Coming home to roost: the pileated woodpecker as ecosystem engineer, by Keith Aubry, and Catherine Raley <a href="http://www.fs.fed.us/pnw/science/scifi57.pdf">http://www.fs.fed.us/pnw/science/scifi57.pdf</a></i></p>	
<p><b><u>Letter 3 – Comment 21</u></b></p> <p><i>The Forest Service cannot predict with certainty which trees will live and which will die so there is a statistical certainty that false positive finds will lead to the cutting of “dying” trees that would in fact survive and continue to provide live tree habitat.</i></p>	<p>Predicting Tree Survival adapted from the Scott Guidelines is disclosed in Appendix B of the School FEIS. Appendix K and Appendix M of the FEIS offer additional rationale for our use of Scott Guidelines.</p> <p>These references to the School FEIS discussion about why a survival prediction was necessary can be summarized as follows:</p> <ol style="list-style-type: none"> <li>1. On a wildfire area covering more than 50,000 acres, the range or combination of site conditions, stand conditions, fire effects, and pre-fire stressors is almost</li> </ol>

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	<p>limitless.</p> <ol style="list-style-type: none"> <li>2. The magnitude of this variability leads inevitably to a decision to adopt a prediction system that relates site and tree factors (explanatory variables) to some type of probabilistic estimate of tree mortality.</li> <li>3. Regardless of whether the fire area is large and contains a wide range of site and stand conditions, we are not aware of any methodology, process, protocol, or procedure that could integrate injuries to a tree's physiological systems (foliage, stem, roots) and produce a conclusive, definitive, and absolutely accurate (never wrong) finding about whether an injured tree will survive or die.</li> <li>4. Since it is not possible to account for every conceivable combination of site and stand conditions across a large wildfire area, and because an absolutely accurate (never wrong) procedure for predicting tree mortality does not exist, there will always be some amount of uncertainty associated with a probabilistic rating system such as the Scott Guidelines.</li> <li>5. The amount of uncertainty associated with the Scott Guidelines is no more than would be associated with any other prediction system, such as Ryan and Reinhardt 1988 and the other systems evaluated in appendix K of the FEIS. In fact, the Scott Guidelines</li> </ol>

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	<p>provide more accurate estimates of tree mortality than Ryan and Reinhardt (1988) and other alternative models evaluated in appendix K because the guidelines include factors for all three of a tree's primary physiological systems, and because the guidelines account for pre-fire factors such as insects, diseases, and overstocking.</p> <p>6. In conclusion: the School Fire Salvage Recovery Project could use Ryan and Reinhardt (1988) or any other similar methodology, process, protocol, or procedure to predict tree mortality, in lieu of the Scott Guidelines, and yet it would still not provide any statistical certainty that the survival prediction results are infallible. As described in the School Fire FEIS, the Forest Service has a legitimate need to predict tree mortality for fire-injured trees, and the Scott Guidelines were found to be the best option for doing so (see table K-1 in School Fire FEIS).</p>
<p><b><u>Letter 3 – Comment 22</u></b></p> <p><i>The proposed sampling of the condition of cambium will increase the risk of infection and other harm for trees that are found to be “alive.” The green needle test is non-destructive and better avoids false conclusions that trees are dead, when they are actually alive.</i></p> <p><i>If the Forest Service is going to allow purchasers to enter stands to remove dead-only trees, and then re-enter stands to remove the “dying” trees, the SDEIS needs to disclose the significant adverse impacts of repeated entries and the fact that soil standards will likely be</i></p>	<p>Cambium sampling is a requirement of the Scott Guidelines protocol for predicting post-fire tree survival, and cambium sampling is a well-established technique supported in the scientific literature (see Appendix M pages M-61 and M-62 in School FEIS).</p>



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<i>violated.</i>	See responses to Comments 8 and 21.
<p><b><u>Letter 3 – Comment 23</u></b></p> <p><i>The use of skyline-yarding in logging areas with green trees will violate the courts injunction and must be disallowed. Skyline yarding results in the killing of live trees, some of which will be larger than 21” dbh. The Siskiyou National Forest’s Biscuit Fire Salvage FEIS (page III-177) admits that 12% of live trees &gt;20” dbh will die in skyline yarding units. This is likely true of all cable logging types.</i></p>	Implementation of this project will be in full compliance with all applicable laws, rules, court orders, and regional policy. Skyline operations may require removal of a small number of live trees to meet safety standards (see Washington Administrative Code (WAC) Chapter 296.54, Safety Standards for Logging Operations). Meeting safety requirements is not discretionary on the part of the Forest Service.
<p><b><u>Letter 3 – Comment 24</u></b></p> <p><i>We find the effects analysis in the SDEIS completely inadequate. It fails to address numerous important scientific issues addressed in these comments.</i></p>	The effects analysis in the Draft SEIS only contains discussion or information that is new or different from the School FEIS. Scientific issues were disclosed in School FEIS in Appendix K and further discussed in Appendix M. Chapter 3 in the FSEIS discloses scientific issues addressed in comments received.

<b>Letter #4 – Forest Service Employees for Environmental Ethics Andy Stahl</b>	
<p><b><u>Letter 4 – Comment 1</u></b></p> <p><i>The stated purpose of the School Fire project is to log timber “before decay and other wood deterioration occurs to maximize potential economic benefits.” The draft SEIS claims that this purpose cannot be met if large live trees are not logged. Thus, the relevant question, which the Draft SEIS does not address or evaluate, is whether large live trees proposed for logging in the School Fire project area suffer or will suffer from “decay and other wood deterioration.”</i></p>	Comments and statistics about the amount and progression of wood decay and deterioration for the School Fire area are summarized in Chapter 1 of the School FEIS (page 1-4).
<p><b><u>Letter 4 – Comment 2</u></b></p> <p><i>In fact, the Draft SEIS includes no evidence whatsoever that any decay or wood deterioration (associated with fire injuries or otherwise) is occurring within the project area’s live trees.</i></p>	Responses to this comment were disclosed in the School FEIS, Chapter 3- Social and Economic

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<p><i>Although the Draft SEIS states that “Larger diameter trees deteriorate at a slower rate and have a higher initial value,” this statement appears to apply only to trees that are dead – not to live trees. The Forest Service’s complete and utter failure to consider, measure, assess, inventory, or otherwise account for decay and other wood deterioration in the project area’s live trees is arbitrary and capricious. There is no rational basis for concluding that the proposed decision to log live trees will meet the purpose of the School Fire project to salvage “before decay and other wood deterioration occurs.”</i></p>	<p>section, Appendix E, Appendix K, and Appendix M, pages M-11 to M-14, and M-30 to M-31 and in the DSEIS, Appendix B (which was modified to be consistent with the August 30, 2006 amendment to the Scott Guidelines).</p> <p>Comments and statistics about the amount and progression of wood decay and deterioration for the School Fire area are summarized in Chapter 1 of the School FEIS (page 1-4).</p>
<p><b><u>Letter 4 – Comment 3</u></b></p> <p><i>Not only does the Draft SEIS fail to assess or consider the present amount and rate of decay and wood deterioration within the project area’s live trees, it further fails to assess any future amount and rate of wood decay and deterioration. The Draft SEIS simply does not inform the decision-maker or public of the amount, kind, location, or any other relevant data concerning future decay or wood deterioration associated with currently live trees that the Forest Service believes will die as a result of fire injuries.</i></p> <p><i>The lack of any information regarding future decay is particularly troubling since there is no evidence that any decay or deterioration whatsoever has occurred in High Roberts project live trees marked for logging because of projected future death. The High Roberts fire burned in 2002. Like the School Fire project, the Forest Service proposed to log live (i.e., so-called “dying”) trees at High Roberts “before insects and disease reduce their value.”</i>  <a href="http://www.fs.fed.us/r6/malheur/high-roberts/decision-memo.pdf">http://www.fs.fed.us/r6/malheur/high-roberts/decision-memo.pdf</a>.</p> <p><i>Yet five years after the fire, virtually none of the High Roberts large live trees has died. There is no evidence of any decay or deterioration in the large live trees. These large trees remain as alive and healthy today as they were the day before the High Roberts fire.</i></p>	<p>See response to Comment 2 above.</p>
<p><b><u>Letter 4 – Comment 4</u></b></p> <p><i>Inexplicably, however, the Draft SEIS claims that “The majority of these <math>\geq 21</math> inch dbh fire injured trees are expected to be dead within the next five years, contributing additional snags.” The Draft SEIS provides no empirical basis whatsoever for this statement. Nor is it supported by actual on-the-ground experience at High Roberts, at Forest Service research sites, or</i></p>	<p>See response to Comment 2 above.</p> <p>Appendix E to the School FEIS describes how local empirical knowledge (gained from monitoring other</p>

<b>Letter #4 – Forest Service Employees for Environmental Ethics Andy Stahl</b>	
<p>anywhere else.</p> <p><i>In sum, the Draft SEIS fails to consider or disclose the lessons learned from the High Roberts project. To wit: 1) Virtually no large (&gt; 21”) trees projected by the Forest Service to die have done so; 2) No evidence of fire-induced decay or deterioration in large live trees; 3) No evidence that suggests future decay or deterioration in large, live trees. This information is relevant to the School Fire project, which proposes to log similar large trees in a similar ecosystem affected by a similar forest fire under similar conditions.</i></p>	<p>forest fires on the Umatilla National Forest over the last 20 years), along with consultation with a professional entomologist about post-fire insect response, was used when predicting and modeling how many large-diameter trees would be expected to die within the next 5 years.</p> <p>Also see response to Letter 3 - Comment 15, for information about how monitoring of the High Roberts fire area was used to prepare amendment 2 of the Scott Guidelines, and how amendment 2 was used to change implementation of the School Fire Salvage Recovery Project.</p>
<p><b><u>Letter 4 – Comment 5</u></b></p> <p><i>The Draft SEIS also fails to explain or describe the sources of decay and wood deterioration, their modes of decay and deterioration, frequency within the project area, or severity. Are the decay vectors insects (and, if so, which ones?), diseases (and, if so, which ones?), physical agents (and, if so, which ones?). Insofar as the purpose of the project is to log “before decay and other wood deterioration occurs,” the decision-maker and public should know the agents of decay and deterioration, the risks of their occurrence, and the expected mode and severity of damage. Some agents are more likely to cause decay than others; some cause more damage than others; and some are possibly preventable by means other than logging. In other words, some of the live trees presently or projected to fall victim to decay and deterioration may be cured and saved by some means (e.g., thinning around the large tree to reduce water stress). However, the Draft SEIS omits in its entirety all of this relevant information.</i></p>	<p>See response to Comment 2 above.</p>
<p><b><u>Letter 4 – Comment 6</u></b></p> <p><i>Also missing from the Draft SEIS is any economic analysis of the decay and wood deterioration allegedly occurring or projected to occur within live trees. How many trees are or will be affected by each decay agent? What is the financial damage associated with each decay and deterioration agent? And, on the other hand, what are the ecological values of the allegedly damaged trees for wildlife habitat and other ecosystem services?</i></p>	<p>The Draft SEIS only contains discussion or information that is new or different from the July 2006 FEIS.</p> <p>Direct, indirect, and cumulative effects for economics and other affected resources were disclosed in the School FEIS, Chapter 3, Wildlife and Social and Economic Sections.</p>

<b>Letter #4 – Forest Service Employees for Environmental Ethics Andy Stahl</b>	
	<p>The economic analysis presented in the School Fire Salvage Recovery Project’s Final Environmental Impact Statement (FEIS) is in accordance with the FS manual and handbook guidance to complete a financial analysis for timber sales (FSH 2409.18). The economic analysis documented in the FEIS identifies financial monetary measures for timber and the financial costs of removing the timber. Other non-timber resources affected by the project are not measured using monetary values. The costs and benefits associated with these resources are described using other quantitative and qualitative measures in accordance with FS policy.</p>
<p><b><u>Letter 4 – Comment 7</u></b>  <i>The Draft SEIS claims that the 9th Circuit School Fire Project ruling “does not reflect Forest Service silvicultural practice and interpretation.” Not so. The Forest Service had implemented the Eastside Screens in a manner consistent with the 9<sup>th</sup> Circuit’s School fire decision from the date of the Screens’ adoption in 1995 until 2003. Beginning in 2003, a handful of Malheur National Forest employees devised a scheme to use the Monument and other Malheur forest fires to justify logging healthy old-growth ponderosa pine trees that had heretofore been protected from logging by the Eastside Screens. Most likely, these employees were motivated by a sincere desire to ensure the economic vitality of their local lumber industry neighbors. Several of their professional colleagues blew the whistle on this conspiracy to evade the Eastside Screens. Regional office staff chose to ignore the whistleblowers and, in cooperation with the Office of General Counsel, tried to build a house of cards that sought to justify this Malheur timber rip-off. The School Fire circuit court ruling rejected the Forest Service’s charade. Now the School Fire project seeks to continue the Malheur’s tradition of duplicity and deceit.</i></p>	<p>On February 12, 2007 the Court issued an opinion that the Project was inconsistent with the Forest Plan (Eastside Screens) by inappropriately implementing the prohibition on logging of any “live tree” <math>\geq</math> 21 inches diameter at breast height that currently exists in the sales areas – i.e., any tree of requisite size that is not yet dead. The Court reasoned that in the absence of an adopted technical definition of “live trees,” the common understanding of the word “live” from the Merriam Webster’s Collegiate Dictionary (10<sup>th</sup> ed. 1993) meant “to be alive” which meant “not dead.” The Court went on to conclude that the agency could not harvest “dying” trees because they were not dead. The Court recognized that we could correct this situation by amending the Forest Plan to include a definition of the term “live trees.” (DSEIS, p. S-1).</p>

<b>Letter #5 – State of Washington Department of Ecology Terri Costello</b>	
<p><b><u>Letter 5 – Comment 1</u></b>  <b><u>Water Quality Program</u></b>  <i>Proper erosion and sediment control practices must be used on the construction site and adjacent areas to prevent upland sediments from entering surface water. Local stormwater ordinances will provide specific requirements. All ground disturbed by construction must be stabilized. When appropriate, use native vegetation typical of the site.</i></p> <p><i>Routing inspections and maintenance of all erosion and sediment control Best Management Practices (BMPs) are recommended both during and after development of the site.</i></p>	<p>Erosion and sediment control practices were disclosed in the School FEIS, Chapter 2, Design Features and Management Requirements, Table 2-3, Chapter 3, Hydrology/Water Quality section, Appendix G, and Appendix I.</p> <p>As stated in the Draft Supplemental EIS (page 3-3) "effects to resources would be as described for all resources under Alternative B in the School Fire Salvage Recovery Project Final EIS. Timber harvest would still occur in the same areas and along the same roads as originally described in the School Fire Salvage Recovery Project Final EIS. Logging systems would remain the same and no new trees would be designated for harvest. The size and location of Riparian Habitat Conservation Areas would remain the same as would the measures to protect those areas. Seasonal restrictions on operations to minimize effects on big game winter range, soils, and snowmobile uses would remain the same. Therefore, as a result of this amendment, there would be no changes on the ground, or to environmental effects beyond those already described in School Fire Salvage Recovery Project Final EIS."</p>
<p><b><u>Letter 5 – Comment 2</u></b>  <i>Forest Practice applicants for projects that will convert forest land to another land use may be required to obtain a Construction Stormwater General Permit from the Department of Ecology. Specifically, if a project involves clearing, grading, and/or excavation which will result in the disturbance of one or more acres and will potentially discharge stormwater to surface waters of the State, then obtaining a Construction Stormwater General Permit prior to operation is required.</i></p>	<p>See response to Comment 1.</p>

<b>Letter #6 – U. S. Department of the Interior Preston A. Sleeper</b>	
<b><u>Letter 6 – Comment 1</u></b> <i>The Department of the Interior has reviewed the Draft Supplemental Environmental Impact Statement for the School Fire Recovery Project, Umatilla National Forest, Columbia and Garfield Counties, Washington. The Department does not have any comments to offer.</i>	<p>Thank you for your review.</p>
<b>Letter #7 – American Forest Resource Council Charles H. Burley</b>	
<b><u>Letter 7 – Comment 1</u></b> <i>AFRC, in the case of this particular project, fully supports the Proposed Action (Preferred Alternative B) to amend the Umatilla National Forest Land and Resource Management Plan (Forest Plan) to address the recent opinion of the 9<sup>th</sup> Circuit Court of Appeals. This amendment would change the Eastside Screens wildlife standard at 6d. (2)(a) to define both dead and live trees.  There are several reasons AFRC supports this amendment. It is consistent with the Forest Plan’s goal: “Provide for production of wood fiber consistent with various resource objectives, environmental constraints, and considering cost efficiency.” (4-67) This amendment is short-term and only lasts as long as the project. In addition, it is limited in its geographic scope and as noted above is contributes to achieving the Forest Plan goals.</i>	<p>Your comments of support have been noted.</p>
<b>Letter #8 – The Lands Council, Mike Petersen The Sierra Club, Rene Voss Hells Canyon Preservation Council, Larry McLaud WildWest Institute, Jeff Juel Friends of the Clearwater, Gary Macfarlane</b>	
<b><u>Letter 8 – Comment 1</u></b> <i>The DSEIS is an attempt to make flawed Forest Service silvicultural policy dominant over rulings of the US judicial system (see DSEIS pages 1-2 to 1-3). The DSEIS must follow science and consider a true range of alternatives to eliminating the Eastside Screens.  It is ironic the SDEIS preferred alternative is not currently legal. Indeed, the SDEIS is a slap in the face to our legal system. The Forest Service has completely ignored that these lands are</i>	<p>The proposed action addressed in the DSEIS responds to the Ninth Circuit Court’s suggestion to amend the Forest Plan by clarifying the agency's definitions of live and dead trees; see response to Letter 3 - Comment 5.</p>

<p align="center"><b>Letter #8 – The Lands Council, Mike Petersen The Sierra Club, Rene Voss Hells Canyon Preservation Council, Larry McLaud WildWest Institute, Jeff Juel Friends of the Clearwater, Gary Macfarlane</b></p>	
<i>publicly owned and the Forest Service has an obligation and a duty to ensure the public interest in these public lands.</i>	The proposed action does not eliminate the Eastside Screens.
<p><b><u>Letter 8 – Comment 2</u></b></p> <p><i>The National Environmental Policy Act request federal agencies to do their jobs right. Yet, the proposed action violates this law in an attempt to justify a decision that has already been made. The Forest Service would amend the Eastside Screens to allow abusive logging of live trees because these trees may die.</i></p>	See response to Comment 1.
<p><b><u>Letter 8 – Comment 3</u></b></p> <p><i>For this project alone, the SDEIS suggest that 5 MMBF would fall into this category. That is a significant amount of older trees and even if they were to die in the near future (all trees eventually die), a significant amount of snag habitat and large woody debris would be protected by following the guidance of the Eastside Scientific Society Panel.</i></p>	<p>See response to Letter 3 - Comments 17-20 as related to snag habitat and its consideration in the School FEIS.</p> <p>The Eastside Screens require that some of the dead trees greater than 21 inches in diameter be maintained, with retention amounts based on 100 percent potential population levels for primary cavity excavators, and the snag retention levels for trees greater than 21 inches in diameter have been met by the School FEIS, see Chapter 3, Appendix B, and Appendix C.</p> <p>Also see response for Letter 3- Comment 10.</p>
<p><b><u>Letter 8 – Comment 4</u></b></p> <p><i>Furthermore, it is specious to argue that ONLY the proposed action meets the purpose and need of the project.</i></p>	Your comment has been noted.
<p><b><u>Letter 8 – Comment 5</u></b></p> <p><i>While 5 MMBF of larger trees is important in term of forest structure and snags, it is less than a quarter of what remains to be logged!</i></p>	Of the approximate 9,400 acres to be harvested approximately 1,800 acres are remaining to be harvested in the Milly, Oli, and Sun sales, and approximately 5,200 acres are remaining to be

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	harvested in Round-two sales (DSEIS, Chapter 2, Table 1, p. 2-5).
<p><b><u>Letter 8 – Comment 6</u></b></p> <p><i>The volume estimates in the SDEIS do not sync up with those in the FEIS.</i></p>	<p>In the DSEIS, Chapter 2, Table 1, p. 2-5 please note the asterisk notation for volume figures that reads "<i>Volume figures express actual volumes realized and experienced deterioration, and therefore, differ from the FEIS.</i>"</p>
<p><b><u>Letter 8 – Comment 7</u></b></p> <p><i>The analysis fails to provide a reasonable range of alternatives that includes scientifically and ecologically sound management proposals. The purpose and need was designed in such a way as to constrain alternatives and, in so doing, pre-determined the decision prior to NEPA analysis.</i></p>	<p>See Chapter 2 of the Final SEIS. This section was modified to address your comment.</p> <p>The Purpose and Need in the DSEIS (p. 1-3) reads as follows:  As stated in the Project FEIS on page 1-4 of the Purpose and Need, "there is a need to salvage harvest [burned timber] as rapidly as practicable before decay and other wood deterioration occurs to maximize potential economic benefits." The Appeals Court opinion and District Court injunction described in the Introduction above "prohibits salvage harvest from the three timber sales areas of any "live tree" greater than or equal to 21 inches dbh. This includes any tree of requisite size with green needles or that is not yet dead." The Appeals Court definition of a "live tree," which does not reflect Forest Service silvicultural practice and interpretation, frustrates the ability of the Forest Service to achieve the purpose and need of the Project as stated above.</p>



<b>Letter #8 – The Lands Council, Mike Petersen The Sierra Club, Rene Voss Hells Canyon Preservation Council, Larry McLaud WildWest Institute, Jeff Juel Friends of the Clearwater, Gary Macfarlane</b>	
<p><b><u>Letter 8 – Comment 8</u></b>  <i>The DSEIS ignores this core NEPA requirement for an adequate range of alternatives by the improper use of purpose/need to limit alternatives. In this instance, by too narrowly defining the purpose and need for this project, in a manner that is at odds with the original purpose and need, constrains management direction prior to NEPA analysis and disclosure and circumvents NEPA requirements for objective evaluation of alternatives before decisions are made.</i></p> <p><i>These actions leave no room for alternatives. These are predetermined decisions which lead to foregone conclusions.</i></p>	<p>See response to Comment 7 above.</p>
<p><b><u>Letter 8 – Comment 9</u></b>  <i>Moreover, use of the overly limited statement of purpose and need to formulate alternatives omits key national, regional and local priorities in terms of restoring watersheds and fisheries habitat without further ecological degradation.</i></p>	<p>This comment is outside the scope of the analysis for this project.</p> <p>See response to Comment 7 above.</p>
<p><b><u>Letter 8 – Comment 10</u></b>  <i>The Forest Service holds a serious responsibility to the Columbia River Tribes, and to all citizens, to do its utmost to improve spawning habitat. The federal government, including the Forest Service, has a legal and moral obligation to do all it can to reverse this trend to meet treaty rights and environmental laws. When fish stocks are at such critical lows, it is the federal government's responsibility to minimize the habitat degradation and to maximize restoration.</i></p>	<p>Direct, indirect, and cumulative effects and findings of consistency for Fisheries were disclosed in the School FEIS, Chapter 3.</p> <p>Treaty Trust Responsibilities were disclosed in Chapter 3 of the FEIS, pp. 3-274 and 3-275.</p>
<p><b><u>Letter 8 – Comment 11</u></b>  <i>In coming up with the purpose and need, the agency has defined the issues to try to preclude a reasonable array of alternatives. Even that effort, does not succeed - a restoration based alternative that focuses on preserving large trees could provide jobs while ensuring long-term economic benefits to the region.</i></p>	<p>See Chapter 2 of the FSEIS. This section was modified to address your comment.</p>

<b>Letter #8 – The Lands Council, Mike Petersen The Sierra Club, Rene Voss Hells Canyon Preservation Council, Larry McLaud WildWest Institute, Jeff Juel Friends of the Clearwater, Gary Macfarlane</b>	
<b><u>Letter 8 – Comment 12</u></b> <i>In sum, the SDEIS violates federal. The agency has refused to analyze any alternative other than the no-action and its preferred alternative. Nowhere does the agency consider new information. Rather the agency simply made this SDEIS extremely narrow. The Forest Service has proposed a policy amendment to the Eastside Screens masked as a something that the Forest Service has always done.</i>	See response to Comment 11 above.
<b><u>Letter 8 – Comment 13</u></b> <i>In spite of the plethora of scientific information questioning the Scott guidelines, the agency has discarded other methods based upon a questionable list of criteria (see page 2-2) that even the Scott Guidelines do not meet.</i>	<p>We believe that the School Fire FEIS fully discloses and discusses the controversy surrounding prediction of which fire-injured trees might die from their injuries in the near future.</p> <p>See response to Letter 3 - Comment 15.</p>
<b><u>Letter 8 – Comment 14</u></b> <i>The agency has not followed either the letter or spirit of NEPA in this process. Alternatives were purposely excluded or constrained</i>	See response to Comment 11 above.
<b><u>Letter 8 – Comment 15</u></b> <i>The SDEIS fails to rigorously look at scientific alternatives to the Scott guidelines. It sets up criteria for excluding other research, some of which, unlike the Scott guidelines, were from independent scientists. Regardless, the lack of detailed analysis of these other methods violates NEPA.</i>	<p>Appendix C and Appendix K of the School FEIS accurately describe the Forest Service's rationale for selecting the Scott Guidelines as a tree mortality prediction protocol. The information presented in these appendixes redeem our NEPA responsibility as a government agency to disclose our decision-making criteria. Appendix K and a Supplemental Information Report from Forest Supervisor Kevin Martin (dated December 21, 2006) show that six objective criteria were used to select a tree mortality prediction protocol (see Appendix K, table K-1; and page 4 of the Supplemental Information Report), and that these criteria were used to evaluate alternatives to the Scott Guidelines.</p>

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<p><b><u>Letter 8 – Comment 16</u></b>  <i>The intent behind the Eastside Screens was to large live trees because they are a scarce resource that has been heavily depleted across the landscape.</i>  <i>The 9th Circuit honed in on the conservative nature of the Eastside Screens. The goal was to preserve large live trees as much as possible.</i></p>	<p>According to the Decision Notice for the Continuation of Interim Management Direction Establishing Riparian, Ecosystem and Wildlife Standards for Timber Sales, as approved on May 20, 1994 by Regional Forester John E. Lowe, “the decision continues the application of the interim direction for timber sales of August 18, as modified, through amendment of each of the nine forest plans, until the Eastside EIS is completed.” This means that the intent behind the Eastside Screens was to preserve future options via interim guidance until a long-term strategy was provided by the “Eastside Ecosystem Management Strategy” (Eastside EIS), which was later called the Interior Columbia Basin Environmental Impact Statement; for this reason, the screens are entitled “Interim Management Direction” (see Appendix N to the DSEIS).</p>
<p><b><u>Letter 8 – Comment 17</u></b>  <i>The SDEIS also failed to look at a range of alternatives. No alternative was considered that refused to do large scale salvage logging. Indeed, no real no-action alternative was analyzed as the no-action was the adoption of the court ruling on live trees.</i></p>	<p>See response to Comment 11 above.</p> <p>In the DSEIS, Alternative A (studied in detail) was described in Chapter 2, p. 2-1 as follows:  <i>In this document the no action alternative means the August 14, 2006 record of decision (Alternative B selected as described in the FEIS) would be implemented as enjoined by the District Court of the Eastern District of Washington. Specifically, the no action alternative excludes further harvest of any "live trees" = 21 inches diameter at breast height, including any tree of requisite size with green needles or that is not yet dead.</i></p>

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	<p>Direct, indirect, and cumulative effects of taking no action (Alternative A) to implement any proposed activities were disclosed in the School FEIS, Chapter 3.</p>
<p><b><u>Letter 8 – Comment 18</u></b>  <i>The latest research from Shatford and Hibbs and many others, remains unanalyzed in this SDEIS. The Forest Service cannot ignore decades of scientific research on the negative effects of post-fire logging.  With regard to the best science on salvage logging, the SDEIS fails to consider recent science, published since the ROD was released, about the impacts of salvage logging. NEPA requires the use of best available science. Noss and Lindenmayer., 2006 discusses the negative effects of post-fire logging. That article and other science cited in these comments and past submissions clearly show that recently burned areas are the <b>very worst areas</b> to look at for timber production.</i></p>	<p>All published scientific literature that was relevant and known to the Forest Service was considered in the FEIS. Chapter 3 of the FSEIS discloses our review of conflicting scientific viewpoints.</p> <p>To our knowledge, an article or other research findings by Shatford and Hibbs has not yet been formally published, but an advance version is now available. We reviewed the advance copy of this article and our response to it is described in Chapter 3 of the FSEIS.</p> <p>The Lindenmayer and Noss (2006) article (published in the journal Conservation Biology, volume 20, issue 4, pages 949-958) resulted from an unpublished Society for Conservation Biology scientific panel report (cited as Noss et al. 2006 in the School FEIS), and this report was analyzed and considered in detail in Appendix K of the School FEIS (see “Society for Conservation Biology Scientific Panel Report” section in Appendix K, pages K-7 to K-9).</p>
<p><b><u>Letter 8 – Comment 19</u></b>  <i>This new information was not considered in the SDEIS because the agency first defined the</i></p>	<p>See response to Comment 18 above.</p>

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<i>range of alternatives too narrowly and then failed to look at an adequate range of alternatives. That is a major failing of the SDEIS.</i>	See response to Comment 11 above.
<b><u>Letter 8 – Comment 20</u></b> <i>The SDEIS failed to look at other relevant information. The Columbia Fire, which burned into some of the project area, was not analyzed.</i>	Cumulative effects of Columbia Complex Fires were considered and are disclosed in Chapter 3 of the FSEIS.
<b><u>Letter 8 – Comment 21</u></b> <i>The SDEIS devoted little discussion to the forest plan amendment. This proposal is a significant amendment to the Umatilla Forest Plan. The 2005 NFMA planning regulations have been enjoined, and therefore this proposal is subject to the 1982 NFMA planning regulations. The current forest plan was prepared under those regulations.</i>	See response to Letter 3 – Comment 14.
<b><u>Letter 8 – Comment 22</u></b> <i>The SDEIS is not clear if or even whether current marking of the units yet to be sold will be changed as a result if the preferred alternative is selected. The proposed adoption of the plan amendment and the amended Scott Guidelines (after the FEIS) are different than what is in the FEIS. As such, they will have to be remarked to meet the judge's ruling.</i>	<p>The Forest Service will be in full compliance with all laws, rules, court orders, and regional policy during implementation of the project.</p> <p>A discussion of changes to Scott Guidelines after distribution of the School FEIS and signing of the ROD are disclosed in Appendix B of the DSEIS on page B-1.</p>
<b><u>Letter 8 – Comment 23</u></b> <i>The SDEIS fails to meet NEPA, NFMA, and the court order. We expect that it will be reissued for another draft because the current SDEIS is inadequate.</i>	<p>The DSEIS only contains discussion or information that is new or different. Other sections of the July 2006 School FEIS are unchanged. Findings of consistency with NEPA and NFMA are disclosed in Chapters 1 and 3 of the FEIS.</p> <p>The Forest Service has prepared this Draft Supplemental Environmental Impact Statement (DSEIS) in response to a recent opinion of the 9<sup>th</sup></p>

<p align="center"> <b>Letter #8 – The Lands Council, Mike Petersen</b>  <b>The Sierra Club, Rene Voss</b>  <b>Hells Canyon Preservation Council, Larry McLaud</b>  <b>WildWest Institute, Jeff Juel</b>  <b>Friends of the Clearwater, Gary Macfarlane</b> </p>	
	<p>Circuit Court of Appeals (Appeals Court) concerning the School Fire Salvage Recovery Project (DSEIS, Chapter 1, pp. 1-1 to 1-2).</p>

<p align="center"> <b>Letter #9 – Ralph Bloemers</b>  <b>The Lands Council</b>  <b>Oregon Wild</b>  <b>Hells Canyon Preservation Council</b>  <b>The Sierra Club</b> </p>	
<p><b><u>Letter 9 – Comment 1</u></b>  <i>The Forest Service has had a practice of protecting these large live trees as much as possible. The Forest Service has repeatedly stated that the Eastside Screens may only be amended on a site-specific basis for cases involved ecological or biological urgency in the short-term. The Forest Service’s response is to put short-term economic gain as the only purpose over and above all other considerations. However, this is not a legitimate basis for a site-specific plan amendment.</i></p>	<p>See response to Letter 4 – Comment 1.</p>
<p><b><u>Letter 9 – Comment 2</u></b>  <i>This proposed policy change is significant because it extends across this landscape and multiple watersheds.</i></p>	<p>See response to Letter 3 – Comment 14</p>
<p><b><u>Letter 9 – Comment 3</u></b>  <i>Since the Eastside Screens were designed as minimum protective measures across eastern forests, any proposed amendment was only to be applied to areas with “biological urgency and unusual circumstance.” Robert W. Williams, Memo to Forest Supervisors Concerning Review of Forest Plan Amendments 1 (Dec. 23, 1997).</i></p>	<p>According to the Decision Notice for the Continuation of Interim Management Direction Establishing Riparian, Ecosystem and Wildlife Standards for Timber Sales, as approved on May 20, 1994 by Regional Forester John E. Lowe, “the decision continues the application of the interim direction for timber sales of August 18, as modified, through amendment of each of the nine forest plans, until the Eastside EIS is completed.” This means</p>

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	<p>that the Eastside Screens were designed to preserve future options via interim guidance until a long-term strategy was provided by the “Eastside Ecosystem Management Strategy” (Eastside EIS), which was later called the Interior Columbia Basin Environmental Impact Statement.</p> <p>More recent direction regarding the Screens and Forest Plan amendments from the current Regional Forester (Linda Goodman) stated: “I therefore encourage you to consider site-specific Forest plan amendments where this will better meet LOS objectives by moving the landscape towards HRV, and providing LOS for the habitat needs of associated wildlife species” (June 11, 2003 memo to Eastside Forest Supervisors; subject: guidance for implementing Eastside Screens). Note that this June 11, 2003 memo states that “This letter replaces those of October 2, and December 23, 1997,” and that it contains no provision about “biological urgency and unusual circumstance.” This means that the “biological urgency and unusual circumstance” provision contained in the December 23, 1997 memorandum was superseded by Goodman’s June 11, 2003 memo.</p>
<p><b><u>Letter 9 – Comment 4</u></b>  <i>The most recent guidance plainly states that an amendment should not be solely focused on economic concerns. Linda Goodman, Guidance for Implementing Eastside Screens, June 11, 2003.</i></p>	<p>Regional Forester Goodman states in her June 11, 2003 memo that “Economic considerations are important but are not considered adequate justification alone for conducting harvest activities in LOS stands.” This statement from Goodman’s memo does not apply to the DSEIS because it proposes to establish definitions of live and dead</p>

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	<p>trees by amending one portion of the wildlife screen.</p> <p>We believe that the project will be fully consistent with the intent of the Eastside Screens (as described in the Eastside Screens environmental assessment and decision notices dated May 20, 1994 and June 12, 1995) because all live trees will be retained, substantial numbers of dead trees will be retained to contribute to late and old structure, and because subsequent planting will contribute to the development of new tree stands.</p>
<p><b><u>Letter 9 – Comment 5</u></b>  <i>The proposal by the Forest Service in this case is illegal, inconsistent with past practice, runs counter to the recommendations from the Eastside Scientific Society Panel and does not ensure population viability.</i></p>	<p>See response to Letter 3 – Comment 8.</p>
<p><b><u>Letter 9 – Comment 6</u></b>  <i>Instead of analyzing through the NEPA process a reasonable range of alternatives to the current rule of maintaining as many large, live trees as possible, the Forest Service has instead focused on alternative scientific methods for predicting live tree mortality in order to expedite salvage logging for the sole purpose of recovering economic value.</i></p>	<p>See response to Letter 3 – Comment 16.</p> <p>See Chapter 2 of the Final SEIS. This section has been modified to respond to your comment.</p>
<p><b><u>Letter 9 – Comment 7</u></b>  <i>The Forest Service has skipped the scoping period for this project, and has prepared a draft environmental impact statement (March 1, 2007).</i></p>	<p>The Forest Service followed 40 CFR 1502.9 (3) (c) (4) which reads <i>Agencies shall prepare, circulate, and file a supplement to a statement in the same fashion (exclusive of scoping) as a draft and final statement ...</i></p> <p>A Notice of Intent (NOI) was published in the Federal Register 2/26/07 in Vol. 72, No. 37, page</p>



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<p><b><u>Letter 9 – Comment 8</u></b></p> <p><i>Rather than admit that this is what it is doing, however, the Forest Service has confounded the issues by focusing on a different question from what standard for protection of large, live trees should be applied. Instead, the Forest Service focuses its analysis on how can one predict whether a given tree is dying. This ignores the actual decision being proposed by the SDEIS, namely, what level of protection should be afford to large, currently living live trees. In other words, the issue is whether currently living trees should be protected as much as possible or should the Forest Service be allowed to set put in place a standard that allows them to log them as much as possible after a fire.</i></p>	<p>The scope of the DSEIS is to establish definitions of live and dead trees by amending one portion of the Eastside Screens amendment to the Forest Plan; the effect of doing this is to return to the same exact situation as was analyzed for the School Fire Salvage Recovery Project. Implementing the DSEIS would result in no incremental change beyond what was already considered by the School FEIS. The direct, indirect, and cumulative impacts of implementing the School Fire Salvage Recovery Project are disclosed in the project’s FEIS, including its appendixes.</p> <p>The Decision Framework for the DSEIS, Chapter 1, p. 1-4 reads as follows:  <i>The scope of the decision to be made is limited to the Forest Plan amendment to the Eastside Screens wildlife standard 6d. (2) (a) within the School Fire Salvage Recovery Project area. The Responsible Official for this proposal is the Forest Supervisor of Umatilla National Forest. The decision will be based on a consideration of public comments, responsiveness to the purpose and need, and a comparison of impacts disclosed by alternative.</i></p>
<p><b><u>Letter 9 – Comment 9</u></b></p> <p><i>As noted above, the 9 Circuit adopted the plain meaning of the word live, consistent with the mandate of the Eastside Screens to protect all live trees as much as possible. A definition of the word “live” that is consistent with the purpose and intent of the Eastside Screens would protect</i></p>	<p>The proposed action of the DSEIS is to define a “live tree” in accordance with Forest Service silvicultural practice and interpretation, with the</p>

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<p><i>old growth trees that currently exist on public forestlands east of the Cascade Crest as much as possible.</i></p> <p><i>Essentially, the Forest Service is redefining the plain meaning of the word live without NEPA analysis and then discussing through NEPA analysis alternative ways to scientifically determine which trees meet this new definition of live.</i></p>	<p>DSEIS definition replacing a generic definition from Merriam Webster’s Collegiate Dictionary that had been adopted by an Appeals Court who was unable to locate a specific or “trade practice” definition of a live tree in the Umatilla National Forest Plan. It is common for trades or professions to establish specific definitions for terms that also have a generic or plain meaning as embodied by Webster’s dictionary. This concept was discussed at length by the Appeals Court panel during their deliberations. What was missing in this situation is a trade-practice definition of a live-tree in the Umatilla National Forest Plan, and the Appeals Court recommended or suggested that we amend the Plan to rectify this shortcoming. The DSEIS is designed to be responsive to the Appeals Court recommendation.</p>
<p><b><u>Letter 9 – Comment 10</u></b></p> <p><i>the Forest Service has not provided a rationale for “treatment” of the stand to justify this site-specific amendment.</i></p>	<p>See response to Comment 9 for the rationale of the DSEIS and its associated Forest Plan amendment.</p>
<p><b><u>Letter 9 – Comment 11</u></b></p> <p><i>that the intent of the Eastside Screens is protective and should be conservative in its application, as the standard was intended to protect large structure from being further depleted through logging.</i></p>	<p>According to the Decision Notice for the Continuation of Interim Management Direction Establishing Riparian, Ecosystem and Wildlife Standards for Timber Sales, as approved on May 20, 1994 by Regional Forester John E. Lowe, “the decision continues the application of the interim direction for timber sales of August 18, as modified, through amendment of each of the nine forest plans, until the Eastside EIS is completed.” This means that the Eastside Screens were designed to preserve future options via interim guidance until a long-</p>

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	<p>term strategy was provided by the “Eastside Ecosystem Management Strategy” (Eastside EIS), which was later called the Interior Columbia Basin Environmental Impact Statement.</p> <p>We agree with this comment’s interpretation with one addition: the Screens wildlife standard was intended to protect large “live” structure from being further depleted. The Eastside Screens “large structure” portion of the wildlife section (e.g., late-old structure or LOS) was not developed nor intended to maintain large blocks of ‘dead and/or dying’ forest condition such as that which occurs from large wildfires” (Norris 2005, as cited in the School FEIS).</p>
<p><b><u>Letter 9 – Comment 12</u></b></p> <p><i>the analysis intuitively recognizes that a site-specific amendment added to one area can be anticipated to result in widespread use as a management tool for the perceived problem, which is likely a greater risk to the forests than the perceived problem itself.</i></p>	<p>The wildlife section of the Eastside Screens uses the short phrase “live trees”, but this phrase or term is not defined within the Screens. The intent of the DSEIS is to amend the Umatilla National Forest Plan to define live trees, and the scope of this amendment applies to and only for the duration of the School Fire Salvage Recovery Project. This means that any perceived risk associated with the DSEIS and its associated Forest Plan amendment is constrained to just the School Fire area.</p>
<p><b><u>Letter 9 – Comment 13</u></b></p> <p><i>This is significant because it covers over 20,000 acres of land across multiple watersheds. The intensity of the proposal is significant, because this involves logging on over 9,500 acres of land. This change is systematic in nature, because it affects a very large area. This change is ecologically significant.</i></p>	<p>See response to Letter 3 – Comment 14.</p>

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<b><u>Letter 9 – Comment 14</u></b> <i>the FS has not looked at the size of change. The FS has not provided any data on the number of large trees that are being logged because this proposal is still based on the previous FEIS which did not disclose this impact.</i>	See response to Letter 3 – Comment 8.
<b><u>Letter 9 – Comment 15</u></b> <i>The timing of this action is also impacted by present and reasonably foreseeable actions. This amendment, by itself, is not narrow in its effect in terms of the area that is being directly and indirectly affected.</i> <i>Furthermore, it is reasonably foreseeable that the Forest Service may propose a similar change throughout the Umatilla National Forest and in other forests east of the Cascade Crest.</i>	<p>Speculation about similar future changes on the Umatilla National Forest, or on other National Forests located east of the Cascade Crest, is just that: speculation; and such speculation cannot be reasonably considered as a foreseeable action if projects have not been proposed (scoped) for which a similar Plan amendment is included as a proposed or connected action.</p> <p>As stated in the Proposed Action section of the DSEIS, Chapter 1, p. 1-3, this amendment applies to, and only for the duration of, the School Fire Salvage Recovery Project.</p>
<b><u>Letter 9 – Comment 16</u></b> <i>Now, the Forest Service has narrowed the stated Purpose = Maximize potential economic benefits. And, the Forest Services stated Need = Do an end-around the decision issued by the 9th Circuit Court of Appeals regarding the plain (and obvious) meaning of “live” trees to fit the agency’s newly minted policy.</i> <i>Whether the new Need is real or perceived, the sole Purpose the Forest Service has put forth is to maximize economic benefits in the short-term regardless of the multiple use management direction for these federal lands. This violates federal law.</i>	<p>The Purpose and Need as stated in the DSEIS reads as follows:</p> <p>As stated in the Project FEIS on page 1-4 of the Purpose and Need, "there is a need to salvage harvest [burned timber] as rapidly as practicable before decay and other wood deterioration occurs to maximize potential economic benefits." The Appeals Court opinion and District Court injunction described in the Introduction above "prohibits salvage harvest from the three timber sales areas of any "live tree" greater than or equal to 21 inches</p>

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	dbh. This includes any tree of requisite size with green needles or that is not yet dead." The Appeals Court definition of a "live tree," which does not reflect Forest Service silvicultural practice and interpretation, frustrates the ability of the Forest Service to achieve the purpose and need of the Project as stated above.
<b><u>Letter 9 – Comment 17</u></b> <i>Under this proposal, hundreds if not thousand of trees will live unless otherwise cut. That is because the trees are still live. The Scott Mortality Guidelines attempt to predict mortality using superficial characteristics. These guidelines do not ensure scientific integrity in the decision because they do not ensure that the tree will die.</i> <i>This new change allows the FS to log large numbers of old growth trees that are still alive within this 9,500 acre logging project.</i>	See response to Letter 3 – Comment 15.
<b><u>Letter 9 – Comment 18</u></b> <i>The Forest Service has not told the public the probability that a tree is going to live nor has the FS disclosed the percentage trees that have a probability of living unless otherwise logged. The Forest Service has not disclosed the differences in the number of trees that would be logged under different alternatives because the FS has used the proposal in the originally illegal FEIS for comparative purposes.</i> <i>The fact is that many of the trees are live and not experiencing any rot or deterioration. The purpose for the project is non-existent. These live trees are not decaying, rotting or losing value.</i>	As described in Appendix M of the School FEIS (pages M-30 and M-31), the Scott Guidelines provide a methodology for predicting the relative probability of survival for fire-injured trees growing on a wide variety of site conditions, exposed to varying levels of pre-fire factors that can predispose a tree to fire-induced mortality depending on their severity or magnitude (occurrence of dwarf mistletoe, root disease, and bark beetles), and experiencing widely varying levels of first-order fire effects to their crowns, stems and roots. The possible combinations of these factors are almost limitless, leading inevitably to a decision to adopt a prediction system that relates site and tree factors (explanatory variables) to some type of probabilistic estimate of tree mortality. This regression or

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modeling approach is commonly used in science, particularly for complex situations (such as wildland ecosystems) where the possible list of explanatory variables can be quite long (Rubinfeld 2000).

Since it is not possible to account for every conceivable combination of variables that could result in tree death, there will always be some amount of uncertainty associated with a probabilistic rating system such as the Scott Guidelines. This same statement about uncertainty also applies to the alternative modeling approaches suggested by Dr. Royce and other respondents to the School Fire Salvage Recovery Project (i.e., McHugh and Kolb 2003, Peterson and Arbaugh 1986, Ryan and Reinhardt 1988, Stephens and Finney 2002, and Thies et al. 2006) because they provide an estimate (prediction) of tree mortality, not a definitive determination.

Appendix B provides implementation and marking guides for the School Fire Salvage Recovery Project. As the marking guides have been implemented, on-the-ground monitoring indicates that they have been applied in a conservative manner, which means that for trees about which there is uncertainty (primarily trees in the moderate category of the Scott Guidelines), the marking crews have generally opted to retain these trees rather than designate them for removal.

Since on-the-ground monitoring of tree marking and

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	<p>designation procedures indicate that the Scott Guidelines are being implemented conservatively in the School Fire Salvage Recovery Project, this means that more trees are being retained than would have otherwise occurred.</p>
<p><b><u>Letter 9 – Comment 19</u></b></p> <p><i>In the SDEIS, the Forest Service indicates that it considered but dismissed “other scientific methods for predicting mortality. The Forest Service dismisses these as the only other alternatives. However, these are other alternatives for predicting mortality under the “action” alternative. These are not a legitimate range of policy alternatives to fulfill the original purpose of the scientific recommendation. The Forest Service has confused the alternatives requirement with finding an accurate scientific method of achieving the chosen alternative. While it is important for the Forest Service to be accurate under the National Forest Management Act on scientific methods, these other methods are not alternatives to the policy and programmatic goal of preserving all large live trees as much as possible. Instead, they are alternative methods for just one policy – a different policy that seeks to allow the Forest Service broad discretion to log large live trees (that may have otherwise lived) as much as possible. In other words, the only alternative that is being considered is whether to only retain live trees with a high probability of survival.</i></p>	<p>Alternatives to consider new policy is outside the scope of this analysis, however, the alternatives considered but eliminated from detailed study in the DSEIS do not involve whether to conduct salvage timber harvest or not because those alternatives were fully analyzed in the School FEIS; the DSEIS alternatives involve alternative methods, models, or procedures for defining a “live tree” because this strategy is responsive to the Appeals Court recommendation for rectifying a Forest Plan shortcoming (lack of a live tree definition)(DSEIS, Chapter 2, p. 2-2).</p> <p>See Chapter 2 of the FSEIS. This section was modified to address your comment.</p>
<p><b><u>Letter 9 – Comment 20</u></b></p> <p><i><u>Suggested Alternatives to Proposed Policy:</u> In the public’s estimation, the Forest Service needs to consider a reasonable range of alternatives to its action, including, but not limited to, the following:</i></p> <ol style="list-style-type: none"> <li>1. <i>Protect 21 inches or greater Old Growth as much as possible. (Current rule).</i></li> <li>2. <i>Protect 19 inches (or other dbh) or greater old growth as much as possible. (Recommendation from the local community in response to recent Forest Service proposals to change and/or get rid of the Eastside Screens).</i></li> <li>3. <i>Protect all old structure, live or dead trees, 20 inches or greater</i></li> </ol>	<p>See Chapter 2 of the FSEIS. This section was modified to address your comment.</p>

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<p><i>(Recommendation from the Eastside Panel).</i></p> <p>4. Allow for mortality prediction for live trees to equate them with dead trees to allow trees that may live and trees that may die to be logged far more than currently possible. (Proposed Change).</p> <p>5. Protect Old Growth, except for particular circumstances where a tree has a very high likelihood of dying in the near future (1 or 2 years from fire) based on commonly accepted scientific method. (Another alternative).</p>	
<p><b><u>Letter 9 – Comment 21</u></b></p> <p><i>The Scott Guidelines do not determine at what point the tree may die in the future, and the Scott Guidelines have yet to be field verified to be accurate. Despite prior guidance emphasizing the need to carefully assure tree death to maintain the protective standard of the Eastside Screens, the Forest Service has recently allowed the Scott Guidelines to be implemented to “implicitly define mortality” despite the fact that the guidelines merely provide a “scientific basis for determining the relative probability of post-fire survival. Linda Goodman, Memo to Forest Supervisors Concerning Defining Conifer Mortality (July 1, 2005).</i></p>	<p>As stated in Appendix M of the School FEIS, the Scott Guidelines predict tree mortality for up to one year after fire (beyond one year for mature or overmature ponderosa pine and grand fir or white fir, although the beyond-one-year criteria for ponderosa pine were recently removed by amendment 2 to the Scott Guidelines), and the Scott Guidelines define the time period for the beyond-one-year species to be the second through fourth year after fire. This means that for all species except mature or overmature grand fir or white fir, the Scott Guidelines provide a very conservative survival prediction spanning only one year after fire. Appendix K of the School FEIS describes why the Scott Guidelines were selected as a tree survival prediction protocol, and whichever protocol had been selected would have been logically adopted when defining a live tree for the DSEIS process.</p>
<p><b><u>Letter 9 – Comment 22</u></b></p> <p><i>Additionally, the Scott Guidelines have been field verified to be highly inaccurate on at least four separate occasions. First, on High Roberts, Dan Becker field-verified the marking</i></p>	<p>See Appendix M of the School FEIS, page M-13 specifically, for the Forest Service response to field</p>



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<p><i>and found many large diameter trees marked for harvest. Dr. Edwin B. Royce then field verified the project and determined that 85% of those trees that were marked were live and unlikely to die from fire scarring. Dr. William B. Ferrell also reviewed photos and confirmed this determination. Dr. Christine Niwa, a Forest Service researcher, field verified the guidelines on the Monument fire and determined that 97% of trees predicted to have a 50% chance of living were still alive two years after the fire. Dr. Richard Waring reviewed the marking at High Roberts three years after the fire, and determined that the trees there were live and unlikely to die. Dr. Royce also returned four years after the High Roberts fire and determined that the trees that had been marked as having either a low or moderate probability of survival were still very much alive four years after the fire.</i></p> <p><i>Moreover, the Forest Service’s Program Manager at its Fire Sciences Laboratory Kevin Ryan has acknowledged that “you can expect that about 95% of the trees that die will do so by the end of the second growing season after fire,” and that by the third year after fire, “one would only be looking at the survivors.” In sum, the Scott Mortality Guidelines continue to be highly controversial and have yet to be proven to be accurate in the field.</i></p>	<p>examinations of Malheur NF fire areas by Royce, Waring, and others.</p> <p>See response to Letter 3 - Comment 15, for our response to concerns about the validity and field verification of the Scott Guidelines, and for a description of how the controversy surrounding their use for tree survival prediction was addressed by the School FEIS.</p> <p>Alternative methods, models or procedures to the Scott Guidelines for predicting tree survival were analyzed in the School FEIS (Appendix K), and in the DSEIS, Chapter 2.</p>
<p><b><u>Letter 9 – Comment 23</u></b></p> <p><i>For this reason, the discussion of alternatives must be undertaken in good faith; it is not to be employed to justify a decision already reached. Id.</i></p> <p><b><u>Suggested Alternative 1:</u></b> <i>The Forest Service should consider an alternative in its analysis which consists of treating small-diameter fuels now to reduce fire risk. The delay in treating fuel building could have significant ecological and economic benefits. Delaying logging for ten years would give soils time to recover from fire damage, provide interim habitat for a variety of wildlife, and allow watersheds and aquatic species populations to stabilize. Immediate post-fire logging has been found to have significant ecological impacts. Beschta, et al. 2004. “Postfire Management on Forested Public Lands of the Western United States,” Journal of Conservation Biology 18(2). An interim period of recovery would decrease the impacts of the proposed project, and the ecosystems as a whole would be better able to sustain the impacts of the proposed project.</i></p> <p><i>Additionally, when the Forest Service is faced with a choice of providing the timber industry with</i></p>	<p>See Chapter 2 of the FSEIS. This section was modified to address your comment.</p>

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<p><i>economic gain and protecting the forest overall for long-term habitat viability, the Forest Service has a duty under the management plan direction for the lands at issue to prioritize habitat protection. Functioning watersheds, diverse wildlife, and healthy soil that will sustain large-diameter tree growth in the future provides significant economic benefits to the community.</i></p> <p><i><u>Suggested Alternative 2:</u> The Forest Service must consider a restoration-based alternative that does prioritize commercial logging above all other options. The Forest Service could focus this alternative on the removal of small-diameter flash fuels, the restoration of area soils, and the removal of unneeded roads and old logging roads. A restoration-based alternative could meet the purpose and needs of the proposed project by providing local jobs and reducing fuel loads by removing the small-diameter flash fuels, the main cause of excess fuel loadings.</i></p>	
<p><b><u>Letter 9 – Comment 24</u></b></p> <p><i>The Forest Service only considers the value of logs for the mill in its economic effects analysis. The Forest Service must consider the economic values of the Umatilla National Forest that are not derived from commercial logging. The economic value of the forest is not limited to timber value and, therefore, when pursuing the goal of maximization of economic value, the Forest Service must look beyond timber harvest.</i></p> <p><i>The Forest Service should incorporate information about the economic value of forests that are not logged in the EIS by including factors that it is able to quantify. These factors are just as applicable to the decision whether or not to log on public land. These include the economic benefits associated with:</i></p> <ol style="list-style-type: none"> <li><i>1. Recreational opportunities and tourism;</i></li> <li><i>2. Commercial and recreational fisheries within the boundaries of the Umatilla National Forest and downstream and offshore;</i></li> <li><i>3. Habitat for important game species and hunting both within and outside of the Umatilla National Forest;</i></li> <li><i>4. Water for cities, industries, businesses, and individual households downstream from the Umatilla National Forest;</i></li> </ol>	<p>The economic analysis presented in the School FEIS is in accordance with the Forest Service manual and handbook guidance to complete a financial analysis for timber sales (FSH 2409.18). The economic analysis documented in the FEIS identifies financial monetary measures for timber and the financial costs of removing the timber. Other non-timber resources affected by the project are not measured using monetary values. The costs and benefits associated with these resources are described using other quantitative and qualitative measures in accordance with FS policy. See Chapter 3 of the FEIS.</p> <p>In addition, neither the National Forest Management Act (NFMA) nor the National Environmental Policy Act (NEPA) requires site-specific analyses such as the School Fire Salvage Recovery Project's FEIS to monetize non-timber resources (Forest Conservation Council v. United</p>

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5. *The regulation of water flowing through rivers and streams, including flood control;*
6. *Non-timber forest products such as wild mushrooms, herbs, and medicinal plants;*
7. *Mitigation of global climate change through absorption and storage of vast amounts of carbon;*
8. *Enhancing the quality of life of neighboring communities;*
9. *Harboring biological resources that either have value now or have as yet unknown but potentially large economic and social value;*
10. *Harboring biological and genetic resources that can improve the long-term productivity of all forest land;*
11. *Pest-control services provided by species that prey on agriculture and forest pests, and;*
12. *Pollination services provided by species that pollinate important forest and agricultural crops.*

*These are important economic benefits generated by national forests in every part of the nation, including the Umatilla National Forest. The Forest Service has extensive literature and sources of data where these factors have been quantified and the Forest Service can rely upon them to quantify the magnitude of these economic benefits at the national, forest, and project level.*

The Forest Service has the tools and expertise to accurately predict the economic value of recreation, scenic resources, and other resources derived from a forest without logging it. See, ECONorthwest, *Seeing the Forests for their Green* (2000). Another study prepared by John Talberth and Karyn Moskowitz explains that from a social and economic perspective, our national forests are far more valuable standing, growing, dying, and regenerating as standing forests rather than as converted paper and wood products. While lumber and wood products are readily available from the 80% of forested land in the United States outside of national forests, clean water, recreation, wildlife, and other public uses and values of great economic benefit generally are not. The small share of the forested land base included in the national forest system must bear nearly 100% of the burden of providing these uses and values. Talberth & Moskowitz, *The Economic Case Against National Forest Logging*, Executive Summary (1999).

States Forest Service, Civ. No. 05-35166 (Ninth Circuit, October 5, 2006). “Nothing in the NFMA or the regulations USFS promulgated in 1982 requires site-specific analyses to monetize non-timber resources... Nor does NEPA require monetization of non-timber resources. FS policy also does not require monetized calculations of non-timber resources in timber sale economic analyses. The costs and benefits associated with non-timber resources are described using other quantitative and qualitative measures (Chapter 3 FEIS) in accordance with FS policy.

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*Moreover, the Forest Service must also incorporate externalized costs. Externalized costs are passed on to communities, businesses, and individuals when national forests are logged. These include the direct, indirect, and cumulative economic costs associated with:*

- 1. Lost recreational opportunities and decreased tourism;*
- 2. Degraded commercial and recreational fisheries within the boundaries of the Umatilla National Forest and downstream;*
- 3. Degraded habitat for important game species and loss of hunting opportunities both within and outside of the Umatilla National Forest;*
- 4. Increased pollution of water for cities, industries, businesses, and individual households downstream from the Umatilla National Forest and increased costs of water filtration;*
- 5. Increased flooding and disruption of the normal flows in rivers and streams.*
- 6. Loss of non-timber forest products such as wild mushrooms, herbs, and medicinal plants;*
- 7. Exacerbation of global warming through release of greenhouse gasses;*
- 8. Diminished quality of life of neighboring communities;*
- 9. Loss of biological resources that either have value now or have as yet unknown but potentially large economic and social value;*
- 10. Loss of biological and genetic resources and species that can improve the long-term productivity and aesthetic qualities of all forest land;*
- 11. Diminished pest-control services provided by species that prey on agriculture and forest pests;*
- 12. Diminished pollination services provided by species that pollinate important forest and agricultural crops.*
- 13. Lost jobs and income associated with timber production on private lands that is displaced by Umatilla National Forest timber sales;*
- 14. Lost jobs and income associated with the production of alternative and recycled products that is displaced by subsidized Umatilla National Forest timber sales;*
- 15. Death, injury, and property damage associated with logging on the Umatilla National Forest, and;*

See response to Comment 24 above.

<b>Letter #9 – Ralph Bloemers</b> <b>The Lands Council</b> <b>Oregon Wild</b> <b>Hells Canyon Preservation Council</b> <b>The Sierra Club</b>	
<p><i>16. Increased risk of severe wildfires caused by adverse changes in microclimate, increased human access, and slash generated by timber sales.</i></p> <p>These externalized costs are generated by national forest logging in every part of the nation, including the Umatilla National Forest. The Forest Service has extensive literature and sources of data that it can rely upon to quantify the magnitude of these externalized costs at the national, forest, and project level.</p>	
<p><b><u>Letter 9 – Comment 26</u></b>  <i>the National Environmental Policy Act (NEPA) requires the agency to develop some method of assessing the value of standing timber as opposed to timber processed as lumber and other more traditional consumer products.</i></p>	See response to Comment 24.
<p><b><u>Letter 9 – Comment 27</u></b>  <i>NFMA imposes requirements on the Forest Service for conducting economic analysis of timber sales. The regulations implementing this statute state that Land and Resource Management Plans (LRMPs) “shall provide for multiple use and sustained yield of goods and services from the National Forest System in a way that maximizes long term net public benefits in an environmentally sound manner.”</i>  <i>Although these regulations refer to LRMPs specifically, because site-specific projects must comply with larger land management plans, the requirement that LRMPs must incorporate values such as recreation and watershed health into a cost-benefit analysis is equally applicable to site-specific project.</i>  <i>NFMA regulations further explain that land management plans must be implemented through site-specific projects that are sensitive to changing economic realities. They state that national forest lands must be managed “in a manner that is sensitive to economic efficiency,” and that managers must be responsive “to changing conditions in land and other resources and to changing social and economic demands of the American people.”</i></p>	See response to Comment 24.
<p><b><u>Letter 9 – Comment 28</u></b>  <i>The RPA requires the agency to: incorporate natural resource benefits and externalized costs into decisions affecting the national forests; secure the maximum benefits of multiple use sustained yield management; conduct comprehensive economic assessments of all National Forest resources; identify all costs and all benefits associated with RPA Program outputs; insure</i></p>	See response to Comment 24.

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<i>consideration of the economic aspects of renewable resource management; improve Forest Service accountability when it prepares annual budgets and reports to Congress on the costs and benefits of its programs; and conserve forests and promote the use of recycled products.</i>	
<b><u>Letter 9 – Comment 29</u></b> <i>The regulations implementing both NFMA and the RPA require the Forest Service to maximize net public benefits, evaluate the relative values of all National Forest resources, consider all market and non-market costs and all benefits of management decisions, and assign monetary values to goods and services to the extent that they can be assigned.</i>	See response to Comment 24.
<b><u>Letter 9 – Comment 30</u></b> <i>Logging national forests exacerbates adverse changes in global climate by reducing the carbon absorption function of national forests and by releasing carbon stored by these forests into the atmosphere. The adverse ecological and economic effects of increases in atmospheric carbon caused by national forest timber sales must be disclosed and incorporated into decision-making by the Forest Service in its EIS for the School Fire logging project under the Global Climate Change Prevention Act.</i>	Addressing global climate change is beyond the scope of this or any individual project. However, it is generally recognized that reforestation following a natural disturbance will accelerate on-site carbon sequestration (Joyce and Birdsey 2000).
<b><u>Letter 9 – Comment 31</u></b> <i>OFFICE OF MANAGEMENT AND BUDGET, CIRCULAR A-94 § 6 (1992) (emphasis in original). As applied to the management of the timber sale program, this guidance clearly indicates the need not only for analysis of the socioeconomic benefits of unlogged forests in areas where logging is contemplated, but also an analysis of the rate of return that could be achieved if timber sale monies were spent on other project such as recreation, wildlife, or watershed restoration.</i>	This circular designed to assist analysts in the regulatory agencies by defining good regulatory analysis and standardizing the way benefits and costs of Federal regulatory actions are measured and reported is outside the scope of this analysis.
<b><u>Letter 9 – Comment 32</u></b> <i>The agency's Economic and Social Analysis Handbook requires the Forest Service to maximize net public benefits and fully account for all market and non-market benefits and costs</i>	See response to Comment 24.

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*in the context of market studies, economic efficiency analysis, and economic impact assessments of its plans and programs. FSH 1909.17.11.1; 1909.17.14.1; 1909.17.14.11; 1909.17.14.6; 1909.17.23.*

*The Forest Service’s Timber Sale Preparation Handbook requires the agency to address all marketed and non-marketed costs and benefits in analyses of the financial and economic efficiency of individual timber sales and the timber sale program as a whole. FSH 2409.18.13.1; 2409.18.32.*

*Similarly, the Forest Service Manual requires the Forest Service to: manage the timber sale program so that total benefits exceed total costs; account for non-timber economic effects in its timber sale analyses; ensure that economic values used in economic efficiency and economic impact assessments adequately reflect biological, economic, and social conditions; and base its decisions on the economic and social impacts and costs and benefits. FSM 2403.4; 2403.5; 1971.5; 1970.1(1), (2), (3); 1970.2; 1970.3(1), (5).*

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**Attachment – Letter from Dr. Jerry Franklin**

**Letter 9 – Attachment-Franklin – Comment 1**

*1. A live tree is a tree that still has functional phloem and cambium tissue and, certainly, any functional green foliage. Living trees may totally lack green foliage but would have live vegetative buds. Fundamentally, live mean live! No technical or scientific understanding of “live” would include trees that are predicted to die at some future point in time, since all trees are going to die at some future point in time.*

As described in Appendix M of the School FEIS, page M-61 (Letter 13, Attachment 3, Comment 14), any post-fire tree survival prediction system should consider or account for injuries to all three of a tree’s primary physiological systems: crown/foliage, bole/stem, and roots. Franklin’s

<p style="text-align: center;"><b>Letter #9</b>  <b>Ralph Bloemers et al.</b></p> <p style="text-align: center;"><b>Attachment – Letter from Dr. Jerry Franklin</b></p>	
	<p>comment mentions foliage and stem, but has no mention of roots and as such, it is not considered to be a comprehensive definition of tree life (or death).</p> <p>As mentioned above in our response to Letter 9 - Comment 21, the Scott Guidelines are designed to predict tree survival for up to one year after fire (with one exception for grand fir and white fir, for which the prediction period is 2 to 4 years), and this means the temporal scope of the School FEIS, and the related DSEIS, is for five years. Since severely injured trees often don't die immediately, but will within a short time period defined as five years or less, it is scientifically and biologically appropriate to include a temporal criterion when establishing a definition about whether they should be considered as alive or dead.</p>
<p><b><u>Letter 9 – Attachment-Franklin – Comment 2</u></b></p> <p><i>2. A scientific definition of dead for a tree is a tree that is no longer capable of further growth, whether of the stem, branches, or leaves. A dead tree is a tree where all meristems and cambial tissue are dead</i></p> <p>.</p>	<p>We agree with most aspects of this comment, although it has no specific mention of the root system (one of a tree's three primary physiological systems, although roots do have meristems) and it contains no time period for assessing when the indicators of tree growth are assumed to have no further "capability". Note that this comment supports use of a prediction system (such as the Scott Guidelines) because it implicitly assumes that an evaluator will need to interpret indicators of tree condition (such as fire-caused damage or injury), and then use results of the assessment to determine whether an affected tree is "capable" of further growth. Note that the use of "further" in Franklin's comment certainly provides a temporal or time-</p>



<p style="text-align: center;"><b>Letter #9</b>  <b>Ralph Bloemers et al.</b></p> <p style="text-align: center;"><b>Attachment – Letter from Dr. Jerry Franklin</b></p>	
	based perspective for his definition, even though his first comment seemed to express no support for any time-based criteria.
<p><b><u>Letter 9 – Attachment-Franklin – Comment 3</u></b></p> <p><i>3. The recommendations of the Eastside Scientific Society Panel are even more appropriate today than they were in 1994 based on our current understanding of the ecological role of old-growth trees in eastside forests and the current reduced population levels of such trees in the eastside landscapes. From an ecological perspective there should be no removal of live old-growth trees, dead old-growth trees (snags), or downed old-growth boles. The elimination of protection for old-growth trees would be a major change in policy that would impact many aspects of the ecosystem including forest resiliency and biological diversity, such as the population levels of old-growth tree-dependent species.</i></p>	<p>This comment about the relevance of recommendations from the Eastside Scientific Society Panel report is opinion. Any analysis or consideration of old growth in the School FEIS is still pertinent to that decision and its associated FEIS. Old growth is not directly applicable to the DSEIS for these reasons: the DSEIS proposed action is to define live and dead trees by amending the Forest Plan for the School Fire Salvage Recovery Project only, and since dead trees are the only tree class proposed for salvage harvest by the School Fire FEIS, and because old growth (LOS) is defined using live trees only by the Eastside Screens amendment to the Umatilla National Forest Plan, this means that removing some of the dead trees created by the School Fire has no effect on LOS in the project area (see Appendix C, page C-5, in School FEIS for more of this rationale).</p>
<p><b><u>Letter 9 – Attachment-Franklin – Comment 4</u></b></p> <p><i>4. From the perspective of biological diversity and ecosystem function, a reasonable alternative to the Forest Service proposal would be to protect all old-growth trees, regardless of size, and to allow no salvage of dead old-growth trees.</i></p>	<p>The School FEIS allows for protection of all live “old growth” trees (however old growth trees are defined) because no live trees of any type or classification (other than danger trees along roads and public-use sites) are proposed for harvest. The option of not harvesting any of the dead trees, whether they are considered to be old growth or not, was analyzed in the School FEIS as the No Action alternative.</p>

<p style="text-align: center;"><b>Letter #9</b>  <b>Ralph Bloemers et al.</b></p> <p style="text-align: center;"><b>Attachment – Letter from Dr. Jerry Franklin</b></p>	
<p><b><u>Letter 9 – Attachment-Franklin – Comment 5</u></b>  <i>5. Based on the information that you provided, the actions proposed within the School Fire Perimeter would be significant.</i></p>	See response to Letter 3 – Comment 14.
<p><b><u>Letter 9 – Attachment-Franklin – Comment 6</u></b>  <i>6. Application of the School Fire proposals throughout the eastside would have significant negative impacts on current and future ecological conditions.</i></p>	See response to Letter 9 – Comment 15.
<p><b><u>Letter 9 – Attachment-Franklin – Comment 7</u></b>  <i>I find it surprising that the Forest Service is proposing to remove living trees of any size—and most certainly old-growth trees—based upon a set of guidelines (Scott et. Al.) that have no basis in a sound, peer-reviewed scientific study and have, in fact, been shown to be grossly inaccurate in their prediction of death in at least 4 case studies. The Forest Service’s use of the Scott guidelines is not justified on scientific grounds. If for economic reasons the Forest Service wishes to cut living trees that it thinks will die soon, it should require the high standards of proof of imminent death and the Scott guidelines do not meet this standard. Absent credible scientific criteria with high predictive capability, there is no basis for assuming imminent death of any old-growth tree with live meristems or cambial tissue.</i></p>	<p>The Scott Guidelines provide three possible outcomes or ratings for each tree being evaluated (and each tree would be assigned to one, and only one, of the three possible ratings): High Probability of Tree Surviving; Moderate Probability of Tree Surviving; or Low Probability of Tree Surviving. The high probability of survival trees are deemed to be alive, and they are not subject to the School FEIS proposed action of salvage timber harvest. The low probability of survival trees are deemed to be dead, and they are available for salvage harvest. The moderate probability of survival trees are evaluated further using cambium testing and some of them are deemed to be alive, and some of them are deemed to be dead. Any tree predicted to be alive by the Scott Guidelines is not subject to salvage harvest, and the Forest Service is not proposing to remove any living tree as based on the Scott Guidelines! As described above for Letter 3 - Comment 15, the Scott Guidelines are a scientifically credible protocol for evaluating whether a tree will live or die after its fire-caused injuries.</p>

**Letter #9**  
**Ralph Bloemers et al.**

**Attachment – Letter from Richard H. Waring**

<p><b><u>Letter 9 – Attachment-Waring – Comment 1</u></b></p> <p><i>1. What is a live tree?</i>  <i>Answer: A live tree is one able to maintain activity in both its primary and secondary meristems, the parts of a plant where cell divisions occur, leading to plant growth. Meristematic tissue is much more sensitive to injury than is older, more mature tissue. They include the following parts of a plant: Cambium in all stems and roots – cell division in this layer leads to radial stem growth. Buds at the end of each branch – cell division there leads to branch elongation and the initiation of new leaves/needles. Root tips, by which roots elongate. Meristems within each growing leaf/needle, by which the tissues grow following its initiation. Reproductive buds, supporting the formation of reproductive structures such as flowers or cones (on conifers). Brown leaves do not conclusively indicate that a tree is dead. One must dissect a good sample of buds and find 100% brown inside. Similarly, a tree is alive if any of its cambium remains functional. Another indicator of life is an increase in the respiration of CO<sub>2</sub> as the temperature increases, independent of whether cell divisions occur.</i></p>	<p>Much of this comment is in accord with the assumptions used by the Scott Guidelines and other tree survival prediction systems analyzed in Appendix K of the School FEIS. However, Waring’s contention that “a tree is alive if any of its cambium remains functional” is not supported by the scientific literature used for the School Fire FEIS and the Scott Guidelines. Ryan (1990) states that “most trees survive up to 25% basal girdling, but few trees survive more than 75%”. Ryan’s conclusion indicates that a tree could have 80% basal girdling (i.e., nonfunctional cambium at the stem base in the area referred to as the root collar) and 20% of the basal cambium non-girdled (and presumably alive) and it would still be expected to die. This finding is obviously counter to Waring’s definition.</p>
<p><b><u>Letter 9 – Attachment Waring – Comment 2</u></b></p> <p><i>2. What is a dying tree?</i>  <i>Answer: A progressive decrease in the ratio of live to dead buds (or branches) indicates a dying tree. It is possible that a dying tree may recover if growing conditions improve, as evidenced by growth spurts following the cessation of insect defoliation, and recovery following a long period of drought.</i></p>	<p>Waring’s comment indicates that a dying tree cannot be evaluated using definitive or conclusive (black/white or yes/no) criteria because death results from “a progressive decrease” in his indicators. We agree. Since tree death generally cannot be determined using conclusive, “yes/no” indicators, this logically leads to adoption of a system where a wide range of indicators must be considered and evaluated, synergistically, and an overall assessment or rating result be used as a probabilistic estimate of tree mortality.</p>

<p style="text-align: center;"><b>Letter #9</b>  <b>Ralph Bloemers et al.</b></p> <p style="text-align: center;"><b>Attachment – Letter from Richard H. Waring</b></p>	
<p><b><u>Letter 9 – Attachment Waring – Comment 3</u></b></p> <p>3. <i>What is a dead tree?</i>  <i>Answer: a dead tree has no functioning meristems. All buds and cambium above and below-ground no longer respire.</i></p>	<p>Also see response to Letter 9 - Comment 18.</p> <p>We agree with many of the concepts embodied in this definition, although it provides no timeframe for when these conditions must be present (or assessed) to consider a tree dead, and it provides no operational details about how these indicators would be assessed in a project implementation context. It also includes the criterion that none of the tissues mentioned must be functioning and, as mentioned above in our response to Letter 9 - Waring Attachment - Comment 1, there is much scientific literature indicating that a tree can be considered to be physiologically dead before 100% of a certain tissue type has become functionally nonresponsive.</p>
<p><b><u>Letter 9 – Attachment Waring – Comment 4</u></b></p> <p>4. <i>Can we predict which trees will die?</i>  <i>Answer: Not accurately, although the probability of mortality in a stand can be estimated within certain bounds. To predict the impending death of an individual tree is difficult, even with detailed measurements of its current physiological state. The status of neighboring trees affects competition for resources and threats from insects and pathogens must be assessed, as a dose-response relationship. The modified Scott's guidelines, like other empirical logistic regression models, are based on superficial classification of injury with different, often questionable, weighing factors. If the goal is scientific integrity, this classification system does not fit the bill. The removal of large diameter material east of the Cascade Crest, particularly live trees but also dead trees, has significant negative effects because this large structure is a rare commodity. In the fact of climate change, there is an even greater need to ensure resiliency across the landscape. For a variety of reasons, the removal of large old structure (large live or dead trees) will have significant impacts in the forested watersheds where it is allowed to occur.</i></p>	<p>We agree with the first part of this comment because it is not possible to predict whether a fire-injured tree will survive or die with absolute certainty (see our response above to Letter 9 - Comment 18). And as stated in the DSEIS, "tree mortality is a complex biological process", and the School FEIS discusses this complexity issue at great length (see Appendix K and Appendix M in the FEIS). With respect to the second portion of this comment: any potential impact of using salvage harvest to remove a portion of the dead trees in the School Fire area were analyzed and discussed in the School FEIS, Chapter 3.</p>

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**Attachment – Letter from James R. Karr**

<p><b><u>Letter 9 – Attachment-Karr – Comment 1</u></b></p> <p><i>First, the debate about the meaning of “live” stimulated by recent Forest Service actions is yet another effort to parse words until clarity, logic, and common sense are lost. Sadly, a bogus scientific justification is formulated to justify this loss of common sense. Given the significant depletion of old-growth resources across the landscape east the of Cascades, a conservative approach like the one plainly evident in the Eastside Screens is appropriate. Judge King wisely reached the same conclusion when he noted that “the plain meaning of “live” is still living, in other words, not dead.”</i></p>	<p>Your comment has been noted.</p>
<p><b><u>Letter 9 – Attachment-Karr – Comment 2</u></b></p> <p><i>Second, I am concerned about the lack of scientific foundation in the defined procedure for marking trees expected to die in the next 5 (or some other arbitrary number) years. The only certainty is that all trees alive today will die in the future; it is virtually impossible to know with any level of accuracy which individual in a population of live (and thus destined to die) trees will die 1 day, 1 year, 10 years, or 100 years from today. Expressing these as probabilities at a population level does provide an aura of quantitative respectability. But that respectability soon fades when one attempts to define which trees will die, a step that is necessary to mark specific trees for harvest. The unsophisticated and not comprehensively validated marking approach of the Forest Service does not meet even a minimum scientific standard.</i></p> <p><i>(1) The Scott Guidelines have not been empirically validated by long-term peer reviewed studies.</i></p> <p><i>(2) They continue to be revised in substantial ways suggesting it is at best a work in progress. It is not appropriate or defensible on either scientific or policy grounds to use unvalidated works in progress to guide management decisions that will influence the health of public lands for decades.</i></p>	<p>As mentioned above in our response to Letter 9 - Comment 21, the Scott Guidelines are designed to predict tree survival for up to one year after fire (with one exception for grand fir and white fir, for which the prediction period is 2 to 4 years), and this means the temporal scope of the School FEIS, and the related DSEIS, is for five years. Since severely injured trees often don’t die immediately, but will within a short time period defined as five years or less, it is scientifically and biologically appropriate to include a temporal criterion when establishing a definition about whether they should be considered as live or dead.</p> <p>With respect to the second portion of this comment: see our response Letter 3 - Comment 15, regarding validation and scientific defensibility of the Scott Guidelines protocol for evaluating tree survival.</p>
<p><b><u>Letter 9 – Attachment-Karr – Comment 3</u></b></p> <p><i>Any effort to eliminate the important protections conveyed through our recommendations would be counterproductive. These changes will, stated simply, lead to further local and regional natural resource degradation that will have significant ramifications in the short- and long-term. This can and should be avoided.</i></p>	<p>Your comment has been noted.</p>

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**Attachment – Letter from James R. Karr**

**Letter 9 – Attachment-Karr – Comment 4**

*In short, cutting those trees as the Forest Service now proposes quite simply sacrifices the ecological and evolutionary future of these landscapes. Instead of being a scientifically grounded policy, the current Forest Service approach is a policy decision being masked as scientific.*

Your comment has been noted.

**Letter #9**  
**Ralph Bloemers et al.**

**Attachment – Emergency Situation Determination**

**Letter 9 – Attachment-ESD – Comment 1**

*2. National Forest Management Act (NFMA) section 1604(g)(3)(E)(iv) which provides that the USFS is required to “ensure that timber will be harvested from NF lands only where...the harvesting system to be used is not selected primarily because it will give the greatest dollar return or the greatest output of timber.” The purpose and need in the proposed ESD is equated solely with economic loss unless immediate timber recovery is undertaken. See also School Fire FEIS. This approach conflicts with this and other NFMA requirements. There are well-known metrics for calculating these costs and benefits of this kind of project.*

*4. The reality of deterioration. How accurate are the calculations? How relevant are the calculations. The FS does not address the scientific reality in the ESD. The deterioration in the first two to three years in fire killed trees is primarily a marketing issue, it is not an issue that is related to the function of the timber cut, milled and sold. The Forest Service can find more on how the issue of marketing is not functional at:*

*4. What is the true value of an appeal given the potential conflict of interest? This conflict of interest also undermines the initial decision as well. The Ninth Circuit has stated that the Forest Service has a conflict of interest and has cautioned against any assumption of regularity in the Forest Service’s conduct with respect to post-fire (salvage) logging sales.*

As stated in School FEIS, Appendix M, Letter 5 – Comment 2, page M-10, several factors were considered in selection of harvest systems. Harvest systems were considered that took into consideration terrain, transportation system, resource protection and other factors.

Emergency situation in 36 CFR 215.2 is defined as "A situation on National Forest System (NFS) lands for which immediate implementation of all or part of a decision is necessary for relief from hazards threatening human health and safety or natural resources on NFS or adjacent lands; or that would result in substantial loss of economic value to the federal government if implementation of the decision were delayed." The determination that an emergency situation does not exempt an activity from appeal. The determination only eliminates the automatic stays built into the appeal review process.

The determination that an emergency situation

<b>Letter #9</b> <b>Ralph Bloemers et al.</b> <b>Attachment – Emergency Situation Determination</b>	
	<p>exists does not conflict with NFMA. Rates of deterioration were disclosed in the Economics section of Chapter 3 of the FEIS.</p> <p>As stated above the determination of an emergency situation does not exempt a project from appeal, it only allows project implementation to begin during the appeal period.</p>

<b>Letter #9</b> <b>Ralph Bloemers et al.</b> <b>Attachment – Dr. Edwin Royce</b>	
<p><b><u>Letter 9 – Attachment-Royce – Comment 1</u></b></p> <p><i>1) In terms of live trees what does live mean?</i>  <i>"Live" is a cellular issue and refers to cells that are carrying out normal metabolic functions. Plant tissues that are alive are then those tissues that are made up of living cells carrying out their normal metabolic functions. The question of whether a tree is alive then comes down to whether the tissue that is normally alive in a healthy tree is, in fact, alive in that tree. This tissue that is normally alive includes the cambial layer under the bark of the trunk, branches, twigs, and larger roots (the phloem, cambium, and newly forming sapwood/xylem), leaves/needles, fine roots, and reproductive structures (flowers/cones). In a healthy mature tree, all of the heartwood, the bark, and the mature functioning sap wood are actually dead tissue. Therefore, a large fraction of the tissue that makes up a healthy live tree is dead.</i>  <i>To maintain their metabolic processes, cells require supplies of water, minerals that they normally receive in that water, and the products of photosynthesis (carbohydrates/sugars commonly referred to as photosynthate). When fire kills cells by heat, the question then becomes whether the remaining parts of the tree can replace those cells or their function.</i>  <i>2) What is the scientific definition of dead?</i></p>	<p>We agree with much of the basic concepts embodied in this definition of a live tree because it refers to all three of a tree's primary physiological systems (crown/foilage, bole/stem, and roots), but it provides no temporal context in which these physiological indicators (functioning meristems, etc.) are to be evaluated. The definition also lacks specificity about how much of these various tissues must be properly functioning to consider the tree as being alive; as noted above in our response to Letter 9 - Waring Attachment - Comment 1, there is much scientific literature (such as Ryan 1990) indicating that a tree can be considered to be physiologically dead before 100% of a certain tissue type has become functionally nonresponsive.</p> <p>The same concerns apply to Royce's definition of</p>

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**Attachment – Dr. Edwin Royce**

*In one sense, every living organism will die eventually, though in another sense, successful organisms live forever through reproduction -- in the case of most plants through the production of seeds or spores. But this is not the issue. The issue in post-fire forest management is whether trees are dead or will die prematurely.*

*A dead tree is one in which all of the tissue is dead -- where all of the cells making up that tissue are no longer carrying out their normal metabolic functions. These cells may have been killed directly by heat from the passage of a fire or have exhausted their stores of photosynthate. The latter occurs either when there are insufficient needles to produce adequate new photosynthate or when the transport of photosynthate through the phloem layer is interrupted.*

*Unless a tree is massively charred, it is not obvious by visual inspection that a tree is dead following the passage of a fire. In principal one would have to perform some kind of cellular sampling throughout the tree. (The orthotolidine test for live cambium is one such cellular test.) Even if there are no live (green) needles immediately post fire, both ponderosa pines and some firs are known sometimes to grow new needles. Typically this "flushing" occurs the next growing season. Sometimes through flushing the tree is able to produce sufficient needles to restore adequate photosynthesis to sustain tissues throughout the tree, and the tree survives. But sometimes the tree loses this race and dies. The newly flushed needles then turn brown. If a conifer is massively charred, one can assume that all above-ground tissues were killed by heat, and the tree is clearly dead. As a practical matter, if charring is less obvious but a tree has no green needles by the end of the next growing season after it is damaged by fire, the tree is also dead. This determination cannot be made immediately post fire because of the possibility of flushing.*

*Thin bark trees like lodgepole pine may be fire girdled even if the fire was so benign that the tree retains green needles. These trees will die within the next year or so because they cannot normally replace cambial layer tissue killed by fire girdling, and the roots will die from lack of photosynthate. On the other hand, mature thick bark trees such as ponderosa pine, western larch, and some firs are not usually subject fire girdling from a fire that does not also kill all of the needles. While one cannot determine if there has been fire girdling other than by sampling the cambial tissue, the question really does not matter if one waits a year before declaring the tree dead. If there has been fire girdling the tree will probably die within that year -- as evidenced by the needles turning brown.*

tree death: it lacks specificity by primary physiological system because the definition requires that "all of the tissue is dead" and there are no criteria provided for how this would be evaluated, particularly in a project implementation context. And as noted for the "live tree" definition, there is much scientific literature indicating that a tree can be considered to be dead before all of a certain tissue type has become functionally nonresponsive. The Scott Guidelines require supplemental cambium testing for trees in the moderate probability to survive category, and this type of "cellular testing" is deemed to be standard practice for this purpose. Since orthotolidine is a known carcinogen, its use would be restricted for federal lands management.

Royce's description of the myriad combinations of tree injuries and their alternative outcomes with respect to survival or mortality provide a good example of the concept that it is not possible to predict whether a fire-injured tree will survive or die with absolute certainty (see our response above to Letter 9 - Comment 18). And as stated in the DSEIS, "tree mortality is a complex biological process," and the School FEIS discusses this complexity issue at great length (see Appendix K and Appendix M in School FEIS).



<b>Letter #9</b> <b>Ralph Bloemers et al.</b> <b>Attachment – Dr. Edwin Royce</b>	
<p><b><u>Letter 9 – Attachment-Royce – Comment 2</u></b></p> <p><i>The recommendation is to leave the old structure alone. Dead means the tree is either massively charred and no green needles right after the fire or the tree is charred (either lightly to quite extensively) but has no green needles a year after the fire. If the tree has green needles a year after the fire, it will probably live and should not be harvested.</i></p>	<p>The School FEIS allows for protection of all live “old structure” trees because no live trees of any type or classification (other than danger trees along roads and public-use sites) are proposed for harvest. The option of not harvesting any of the dead trees, whether they are considered to be old growth or not, was analyzed in the School FEIS as the No Action alternative. The option of retaining all fire-injured trees with a diameter of 21 inches or greater, and having any “green needles a year after the fire,” was analyzed in the DSEIS as the No Action alternative because it reflects the existing situation as enjoined by the District Court and based on the Ninth Circuit Appeals Court ruling.</p>
<p><b><u>Letter 9 – Attachment-Royce – Comment 3</u></b></p> <p><i>4) The effects of the proposed change to the Eastside Screens are proposed for the School Fire perimeter. Do you think the potential direct, indirect and cumulative effects of the change are significant?</i></p> <p><i>Given the depletion of these key resources across the landscape below the historic range of variation, any action that permits the harvest of large live trees will have a significant impact on the ecosystem, at least locally and possibly regionally.</i></p>	<p>Your comment has been noted.</p>

<b>Letter #10– Edward L. Johnson</b>	
<p><b><u>Letter 10 – Comment 1</u></b></p> <p><i>I don't agree with the broad interpretation by the 9<sup>th</sup> circuit of appeals regarding what constitutes a "live tree." I feel management of National Forests should be left to people trained in forest management – not by the courts.</i></p>	<p>Your comment has been noted.</p>

<p><b><u>Letter 10 – Comment 2</u></b> I agree with the Regional Forester's amendment #2 to the Forest Plan defining what constitutes live trees. It along with the Scott guidelines explains what factors are used to determine the question of survival of a tree or group of trees.</p>	Your comment has been noted.
<p><b><u>Letter 10 – Comment 3</u></b> I agree with the proposed ESD regarding salvage of the School Fire timber. The economic value of this timber will be lost if it is not removed. Revenue produced could be used to help finance post fire recovery. If these dead trees are not removed they pose a threat to live trees should a future fire occur. A public safety factor is also involved. I would hope an emergency determination is made so sale and removal of this timber can proceed.</p>	Your comment has been noted.

<b>Letter #11 – Christine Reichgott, U.S. EPA – Region 10</b>	
<p><b><u>Letter 11 – Comment 1</u></b> <i>We have assigned a rating of LO (Lack of Objections) to the DSEIS. The rating and our summary of comments will be published in the Federal Register.</i></p>	Thank you for your review.
<p><b><u>Letter 11 – Comment 2</u></b> <i>Although EPA continues to have concerns related to the potential for increased sediment loading to stream associated with the proposed salvage harvest, particularly in the Tucannon River Subbasin, we acknowledge that the current analysis is focused on an operational definition of the words "live" and "dead" and not on harvest per se. We also acknowledge the importance of these sales to the local timber economy, and the importance of the trees currently under injunction in terms of making the proposed sales economically viable.</i></p>	Your comment has been noted.
<p><b><u>Letter 11 – Comment 3</u></b> <i>We appreciate that the Forest Service is proposing that this amendment should apply to, and only for the duration of, the School Fire Salvage Recovery Project.</i></p>	Your comment has been noted.
<p><b><u>Letter 11 – Comment 4</u></b> <i>We appreciate that the Forest Service is proposing that this amendment should apply to, and only for duration of, the School Fire Salvage Recover Project. As noted by Filip et. Al (2007), “the effects of fire on trees depend on several factors. Tree species, size, and age: stand structure; season of burn; weather; fuel loading; topography; and fire severity are among the important variables that determine the degree of injury to trees and probability of immediate or delayed mortality or attack by bark beetles or other opportunistic pests in subsequent years.”</i></p>	Your comment has been noted.

<p><i>Accordingly, the definition of what constitutes a “dead” tree may vary as these factors change. Likewise, the model best suited to making a prediction about tree mortality may change.</i></p>	
<p><b><u>Letter 11 – Comment 5</u></b>  <i>We feel that the document has adequate job of considering a range of alternative models and methods for assessing the probability of tree mortality. Based on the information presented, it appears that the Scott Guidelines are the best suited to the assessment of tree mortality within the School Fire Project area. As noted in Appendix K, the Scott Guidelines are geographically specific to the School Fire Project area, and they provide a methodology for geographically specific to the School Fire Project area, and they provide a methodology for predicting the relative probability of survival for fire-injured trees growing on a wide variety of site conditions, exposed to varying levels of pre-fire factors, and experiencing widely varying levels of first-order fire effects to their crowns, stems and roots.</i></p>	<p>Your comment has been noted.</p>
<p><b><u>Letter 11 – Comment 6</u></b>  <i>Nevertheless, as noted in the document (K-16), it is not possible to account for every combination of variables that could potentially result in tree death. There will always therefore be uncertainty associated with any probabilistic rating system (such as Scott Guidelines). This uncertainty could be addressed in part by monitoring survival of fire-damaged trees across the School Fire burn (both inside and outside of sale units). Results from these monitoring efforts could be used to help validate and calibrate the Scott Guidelines. Additionally we note there have been relatively few studies that discuss empirical data on the effect of post-fire salvage logging. The School Fire Salvage project provides a unique opportunity to examine effects of salvage logging and restoration planting in a fire prone ecosystem (Blue and Wallowa Mts).</i></p>	<p>Your comment has been noted.</p>
<p><b>Letter #12 – Dan Becker</b></p>	
<p><b><u>Letter 12 – Comment 1</u></b>  <i>...there are better ways to comply with the Eastside Screens and, even, to legitimately predict tree mortality in far more statistically accurate ways than those used by the Forest Service outside of Region 6. These models are easier to implement in the field and do not increase the likelihood of further damage to the trees as the Scott guidelines. The question remains: Why do the papers and guidelines published by Scott, Schmidt, and Filip not have peer review and specifically peer review by the many Forest Service scientists who have made a career of fire and fire effects? Their work is cited to lend authority to these papers and guides, yet peer review is not elicited from these same scientists.</i></p>	<p>Your comment has been noted.   See response to Letter 3 – Comment 16.</p>